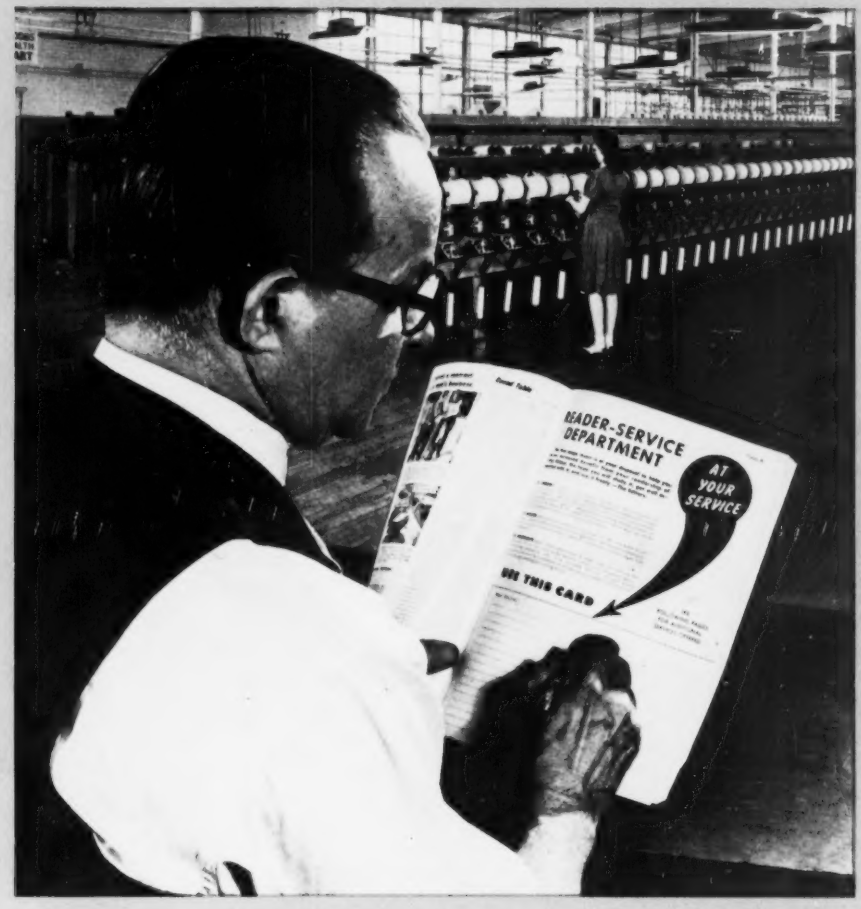
TEXTILE WORLD

A McGraw-Hill Publication ..... **JUNE • 1949**



New Reader Service Begins This Issue

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Two Associations Check on CARDING PRACTICES

Meetings of the T. O. E. of Georgia and the Eastern Carolina Div. of S. T. A. produced interesting quality-raising and cost-saving data—Easy-to-read summaries are on pages 116 and 129.

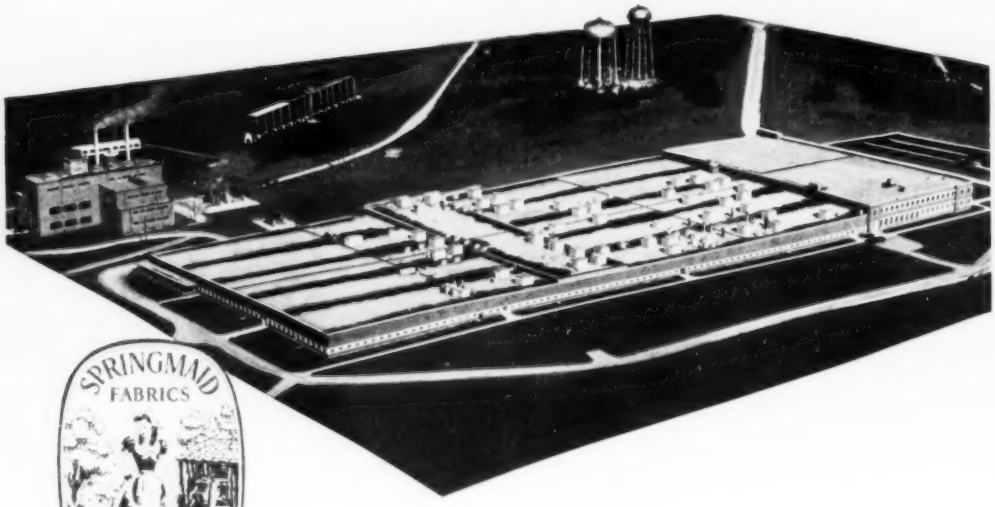
$200 Prize Offered For BEST KINK Published

New award announced for popular department is in addition to monthly prizes and in addition to payment for all kinks accepted—Send in your ideas—Details are on page 157.

Handling Nylon, Cutting Costs Feature KNITTING SHOW

Unprecedented number of new developments displayed at Knitting Arts Exhibition—Versatility and cost-cutting features stressed—A 6-page report starts on page 118.

IT'S ALL BLEACHERY and ELEVEN ACRES WIDE



SPRINGMAID FABRICS

This huge 11-acre plant, the new Grace Bleachery of the Springs Cotton Mills located near Lancaster, South Carolina, is the most modern finishing plant in the world and one of the largest.

Here the most advanced bleaching, dyeing and finishing machinery, with the revolutionary continuous process will be able to finish up to 5,000,000 yards of top-quality SPRINGMAID fabrics per week at low unit cost.

The bleachery's power plant alone generates 15,000 kilowatts an hour. Its filter plant's capacity is 6,000,000 gallons per day – more than enough for a city of 50,000 people.

As architects and engineers for this modern, efficient bleachery, we were able to employ the experience of 31 years' service to the textile industries.

ROBERT AND COMPANY ASSOCIATES

Architects and Engineers

ATLANTA

TEXTILE WORLD, Vol. 99, No. 6, June 1949. Published monthly by McGraw-Hill Publishing Co., Inc. (Hraedon, Lord & Nagle Division). Publication Office, 99-129 North Broadway, Albany, N. Y. RETURN POSTAGE GUARANTEED. Editorial and Executive Office, 330 W. 42nd Street, New York 18, N. Y. Allow at least ten days for change of address.

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If you are plagued by bad cloth or a new style is giving you trouble and your profits are disappearing in today's highly competitive market, a Draper Serviceman may be able to help you. These skilled technicians are able to draw upon a fund of over 50 years accumulated knowledge of the art of weaving on automatic looms. You can bank on their advice.

Backing up the Draper Servicemen, our Engineering and Research Departments stand ready to assist you in solving your problems.

If you need help don't fail to call us.

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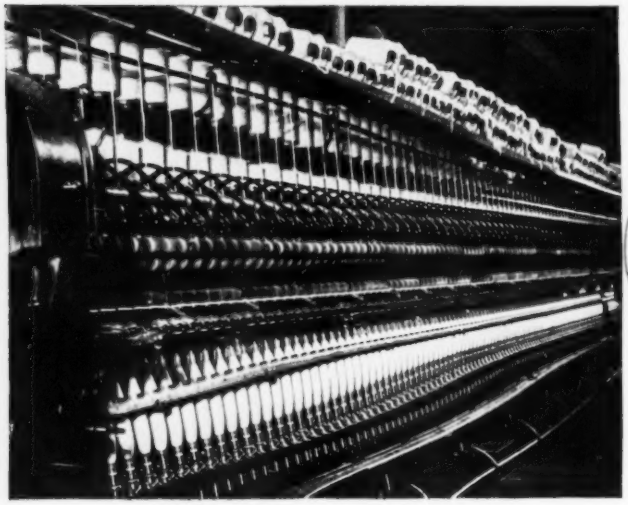
Atlanta, Ga. Hopedale, Massachusetts Spartanburg, S.C.

for better yarn... better



Assure higher quality, greater production, lower costs with Texaco Spindura Oils

HIGH spindle speeds call for lubricants with high resistance to oxidation, thickening and fogging . . . and *Texaco Spindura Oils* meet these requirements 100%. Thus, when you "Spin With Spindura", your production of first-quality yarn goes up—your costs go down.

Texaco Spindura Oils are specially processed to prevent formation of gummy deposits. They reduce vibration, hunting and lagging . . . eliminate wasteful power "drag" . . . let you run heavy packages at full speed . . . assure smoother, cleaner, more uniformly twisted yarn with fewer ends down.

There is a complete viscosity range of *Texaco Spindura Oils* to meet all spindle manufacturers requirements for the effective lubrication of spinning, throwing, spooling and twisting spindles.

Let a Texaco Lubrication Engineer show you how you can increase efficiency and reduce costs throughout your mill. Call the nearest of the more than 2300 Texaco Wholesale Distributing Plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.

TEXACO

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FOR THE TEXTILE INDUSTRY

Tune in . . . TEXACO STAR THEATRE every Wednesday night starring Milton Berle. See newspaper for time and station.

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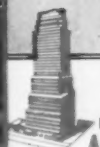

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THE *Long-Range* VIEW

At Your Service!

A new department begins in this issue of TEXTILE WORLD on page 173. It is called our Reader Service Department and has been in development for several years. It is being introduced at this time in recognition of the more difficult job confronting everyone responsible for manufacturing textiles.

The great emphasis today is for lower and lower costs yet higher and higher quality. That means a need for an increasing amount of sound technical information for the men responsible for operating mills.

We do not need to "beat the drum" to extol TEXTILE WORLD as an indispensable source of technical information in its editorial and advertising pages. But we do know that good mill executives are busy men. Our staff of editors has been developing all sorts of techniques to help you get a maximum of information for whatever amount of time you devote to this source of technology. Many of the means we use are not obvious to you as a reader. But from your letters, we know that many have benefited from the greater ease with which you can get information from TEXTILE WORLD and from the greater amount of information which is being carried.

The innovation in this issue, our Reader Service Department, is a more obvious means to help you get more of the information you need on your job. The service goes beyond what is published in the magazine and makes it easy for you to request whatever additional help you feel you need.

The cards printed in the department provide a quick way for busy men to ask for more details on whatever appears in the magazine. There is a card on which you can ask questions or tell us what you would like to have the editors investigate and publish. Or it can be used to contribute to Kinks and Short-Cuts, Round Table, or any other department.

The new service should be useful to you in requesting more information on new equipment described in our Textile Equipment News Department. We publish more such items, more first, and more exclusives than you can find anywhere else. It would be poor publishing for us to try to print details that would be of interest to only a small number of our readers, so we have the Reader Service Department for you to request any additional details you need.

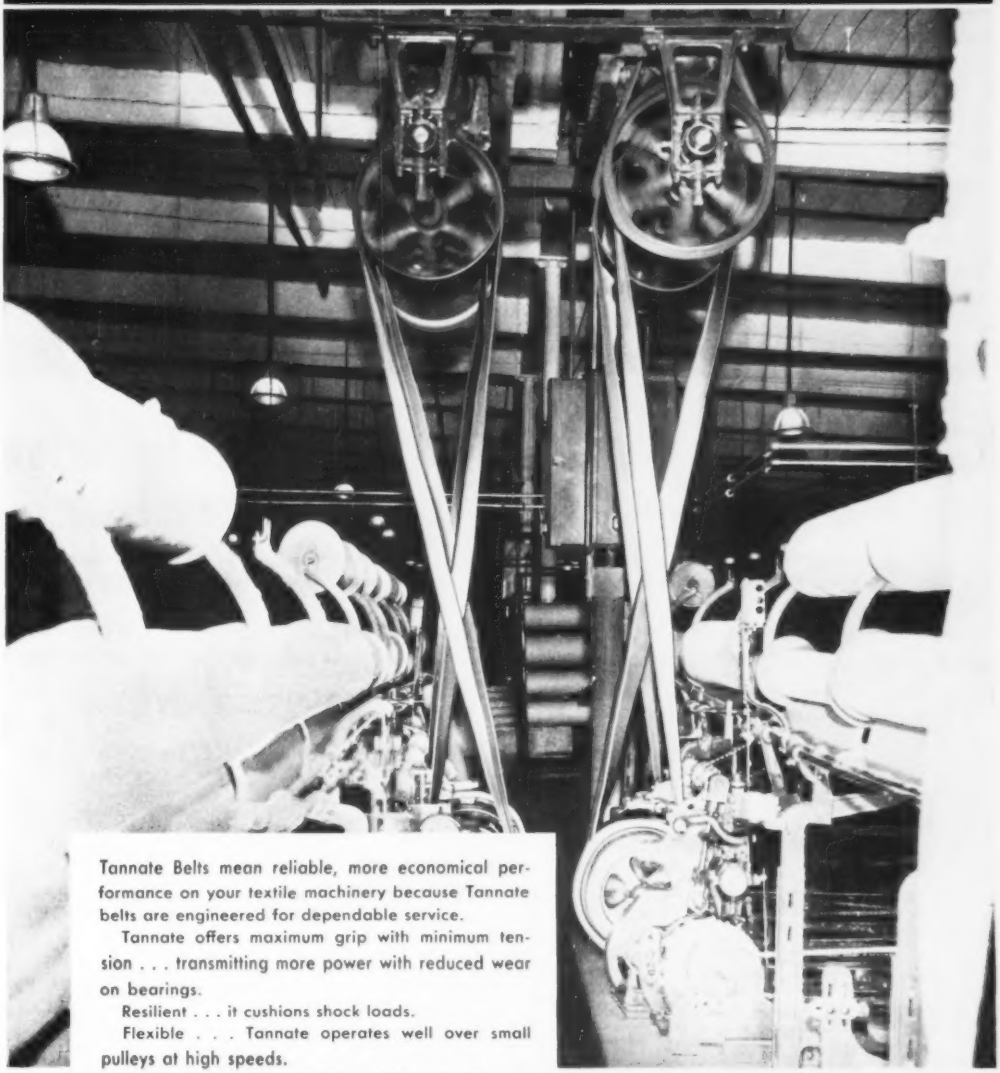
It should be quite evident that this service is a great extension of TEXTILE WORLD. It is a step to permit us to expand our functions to meet your needs more fully than ever before.

Last month (page 270) we announced the addition of E. H. Helliwell and Richard C. Scott to our staff and the elevation of William A. Newell to post of managing editor. We are proud of our editorial staff, every man of which is an experienced textile man. Five of our full-time men have had journalistic training. Such training is invaluable in presenting effectively technical information.

You may note other innovations in this issue. There have been many in the past (including an increasing number of editorial pages), and there are many planned for the future. All are designed to permit us more and more to be At Your Service.

C. H. Bendigo

RHOADS *Tannate* LEATHER BELTS



"Group Drive in Woolen Mill"

Tannate Belts mean reliable, more economical performance on your textile machinery because Tannate belts are engineered for dependable service.

Tannate offers maximum grip with minimum tension . . . transmitting more power with reduced wear on bearings.

Resilient . . . it cushions shock loads.

Flexible . . . Tannate operates well over small pulleys at high speeds.

Whether for group or individual drives, let Tannate leather belting help reduce your maintenance and power costs.

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Speaking as your Superintendent, I say

Gentlemen, right now it's doubly wise ...to SACO-LOWELLize!

We're in a competitive market, and buyers are becoming more and more quality-conscious. This is challenging, in view of the well-known fact that the current crop of cotton is inclined to be neppy and full of pepper trash.

You know that to maintain our brand name standards our equipment must be as good or better than our competitors' . . . Let's briefly analyze the SACO-LOWELLizing program, and see if it can help us.

1. Take our OPENING and CLEANING — is our equipment *adequate* for the kind of cotton we are forced to buy today?
2. Are our *cards* equipped with CONTINUOUS STRIPPERS?
3. Do we have the latest type of CONTROLLED DRAFT DRAWING?
4. Are our ROVING FRAMES equipped with a modern controlled draft system?
5. Can they produce packages which give greatest economy in the Card and Spinning room?
6. Are our FLYERS and SPINDLES in good condition?
7. Is our SPINNING wide gauge with large packages; is it equipped with the modern drafting elements, power-saving spindles, and long-life roll covering?
8. Is our maintenance program effective; are our frames lined and levelled and in good operating condition; do we use genuine SACO-LOWELL repair parts for replacements?

If your answers to any of these 8 important questions show that you can improve your competitive position, you are invited to consult an engineer from SACO-LOWELL! Write our nearest Sales Office.

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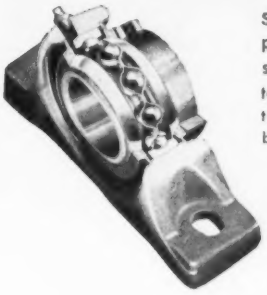
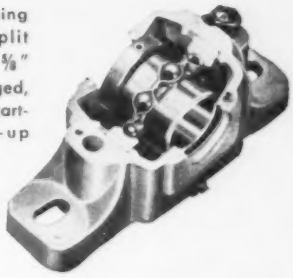
Series 200 ball bearings



Solid or split housing pillow blocks (solid shown) for shafts 5/8" to 3 15/16"—also flanged, take-up, and hanger blocks.

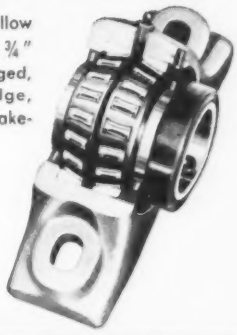
Series 300 ball bearings

Solid or split housing pillow blocks (split shown) for shafts 5/8" to 3 15/16". Also flanged, flanged cartridge, cartridge and take-up blocks.

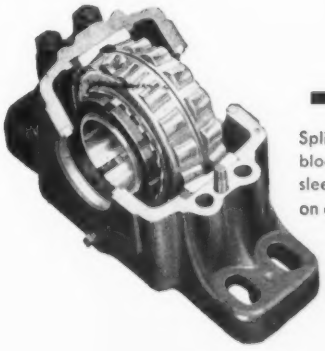


Series 400 roller bearings

Solid housing pillow blocks for shafts 3/4" to 4"—also flanged, flanged cartridge, cartridge and take-up blocks.



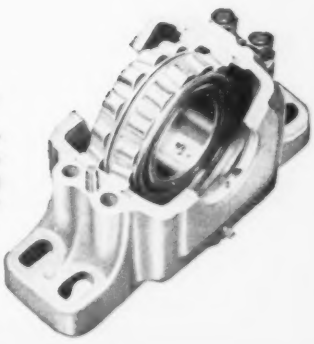
Series 6800-6900 roller bearings



Split housing pillow blocks with adapter sleeves for mounting on commercial shafting of 1 7/16" to 6 15/16" diameter.

Split housing pillow blocks for press-fit on precision-turned shafting of 1.7700" to 7.4800" diameter.

Series 7800-7900 roller bearings



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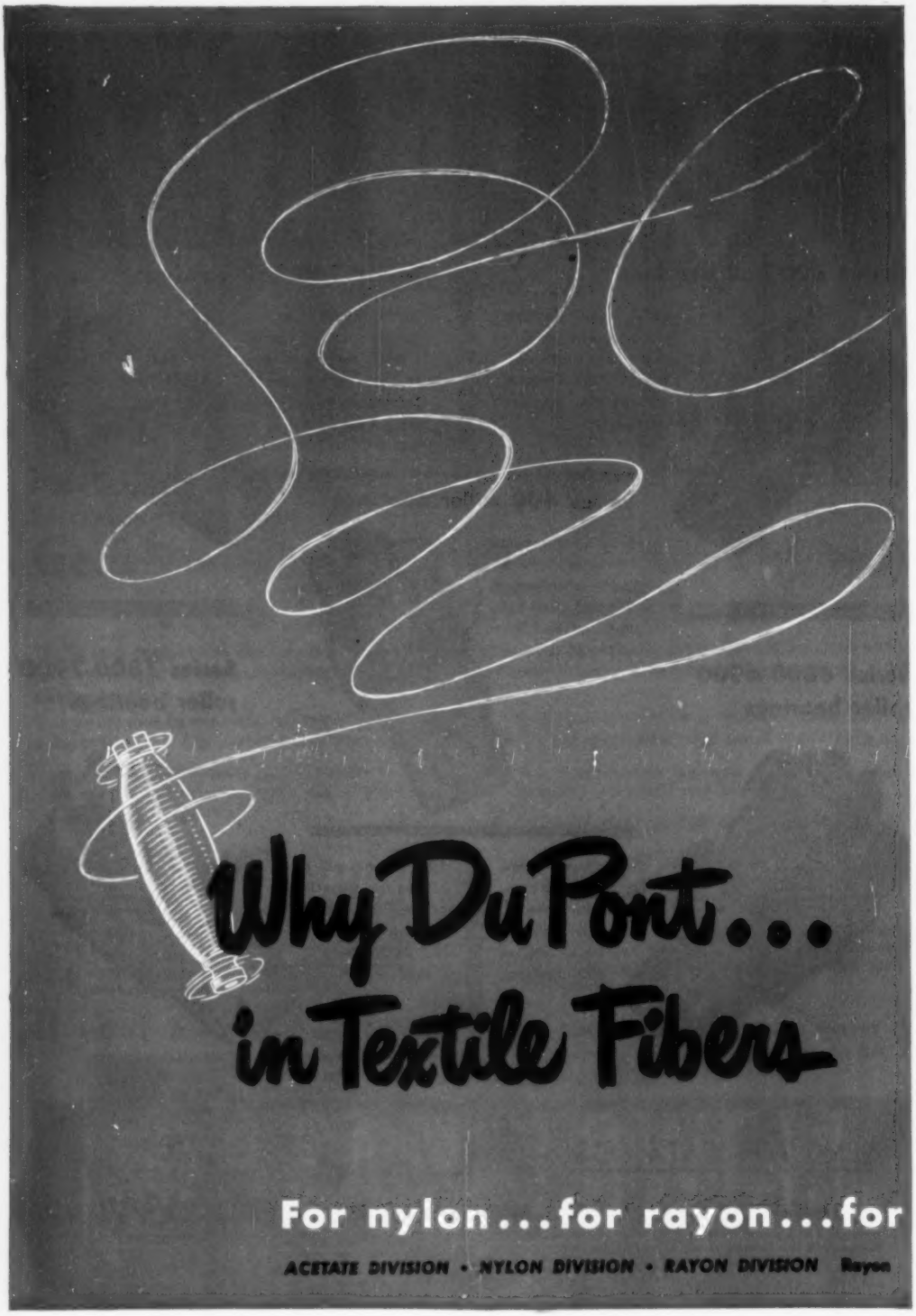
LINK-BELT BALL AND ROLLER BEARINGS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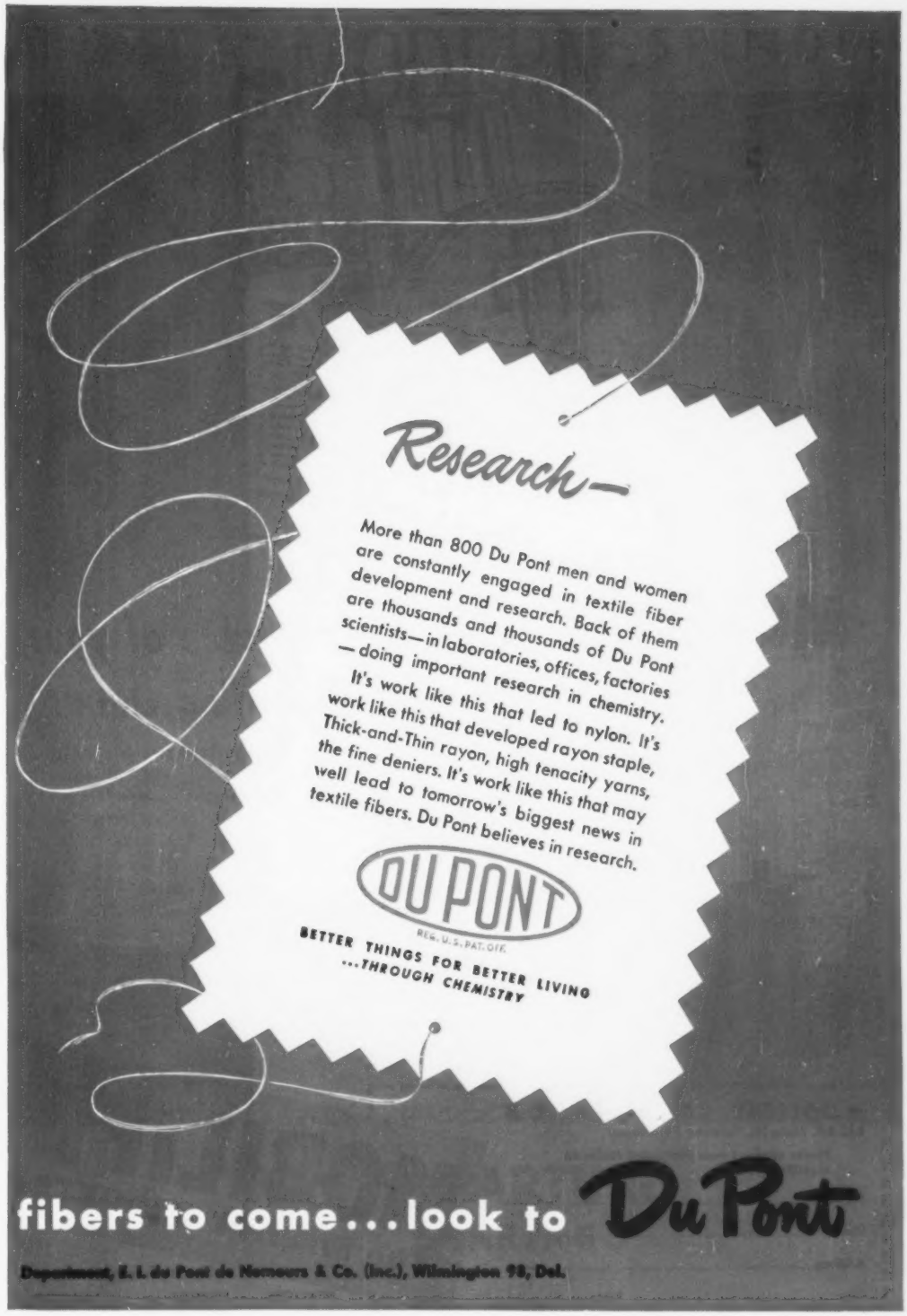
in Textile Fibers
For nylon...for rayon...for
ACETATE DIVISION • NYLON DIVISION • RAYON DIVISION
Rayon


Research—
More than 800 Du Pont men and women are constantly engaged in textile fiber development and research. Back of them are thousands and thousands of Du Pont scientists—in laboratories, offices, factories—doing important research in chemistry.
It's work like this that led to nylon. It's work like this that developed rayon staple, Thick-and-Thin rayon, high tenacity yarns, the fine deniers. It's work like this that may well lead to tomorrow's biggest news in textile fibers. Du Pont believes in research.
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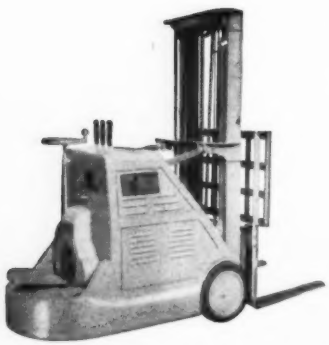
fibers to come...look to Du Pont
Department, E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Del.

MOBILIFT *DOUBLES the value of your Materials Handling Dollar*



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"The MIGHTY MIDGET"

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Designed throughout to promote the most *modern* conditions, the Saco-Lowell New Era Spindle, with New Departure precision ball bearings developed specifically for the purpose, offers a most impressive list of operating advantages.

Spindle blade is stationary and the yarn carrier, supported on two New Departure ball bearings, is the only revolving member.

Power requirements reduced 25% or more and tape life increased nearly 300%.

Under normal conditions, adjusting, repair or replacement of parts is never required. New Departure ball bearings show no perceptible wear after 30,000 hours' operation.

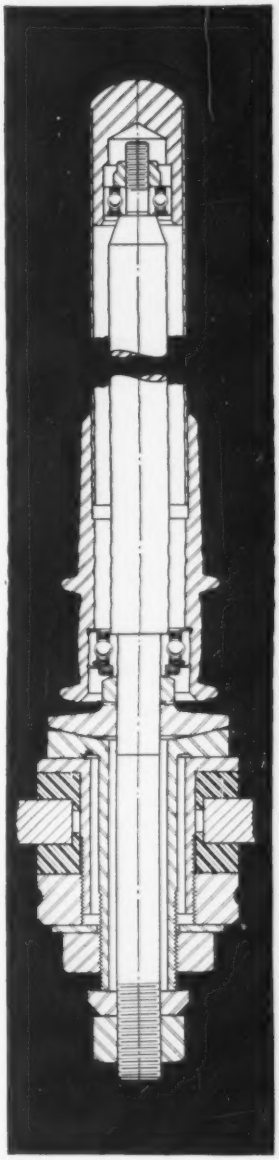
No oil used. Self-enclosed ball bearings are grease lubricated for at least 18,000 to 30,000 hours on a three-shift basis.

New Departure ball bearings provide ample load capacity at high speeds – with no oil throwing – no oil soaked yarn – no oil and lint mixture coating the spindle rail.

Spindle design saves hours of work installing and maintaining accuracy of spindle adjustment.

Performance proved by over five years mill operation and 750,000 spindles before released in unrestricted quantities.

Made for new frames or replacement in old, giving the most *modern* ball bearing advantages in both.



Nothing Rolls Like a Ball

66

NEW DEPARTURE
BALL BEARINGS

NEW DEPARTURE • Division of GENERAL MOTORS CORPORATION • BRISTOL, CONNECTICUT • BRANCHES IN ALL PRINCIPAL CITIES

KOHORN

More Rayon for Chile

Rayon made by this modern new plant, the largest in Chile, costs less than imported yarn. This saving and benefit to the country's balance of trade is the result desired by Textile Manufacturers and Investors who promoted and supported construction of the plant.

It was built in seventeen months by Oscar Kohorn & Co., Ltd.—the world's leading builders of rayon plants and rayon machinery. Kohorn experts are technical managers of the plant, until the local staff gains sufficient experience to take over. Since 1948, the plant's output has aided the Chilean textile industry and the national economy.

Domestic markets of other countries can profitably be supplied by local rayon plants. With Kohorn engineering, rayon machinery and technical management a new rayon plant is certain to be built quickly and to produce efficiently, employing local labor and engineers.

Kohorn brings to your project over thirty-five years' skill and experience in Designing, Equipping and Operating complete rayon plants. Write for further information without obligation.

Complete Plants for the manufacture of Filament Rayon, Rayon Staple Fiber and Cellophane equipped in 12 months

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EXECUTIVE OFFICES

501 FIFTH AVE. NEW YORK 17, N. Y., U. S. A.

—Pioneers of the Rayon Industry—

cut COSTS!

SPECIFY THE DETERGENT WITH GUARANTEED

40% active organic content

Nacconol NR

AMERICA'S LEADING SYNTHETIC DETERGENT

WASHES · WETS · DISPERSES · FOAMS · EMULSIFIES
IN HOT OR COLD SOLUTIONS AT ANY pH
COSTS LESS · DOES MORE

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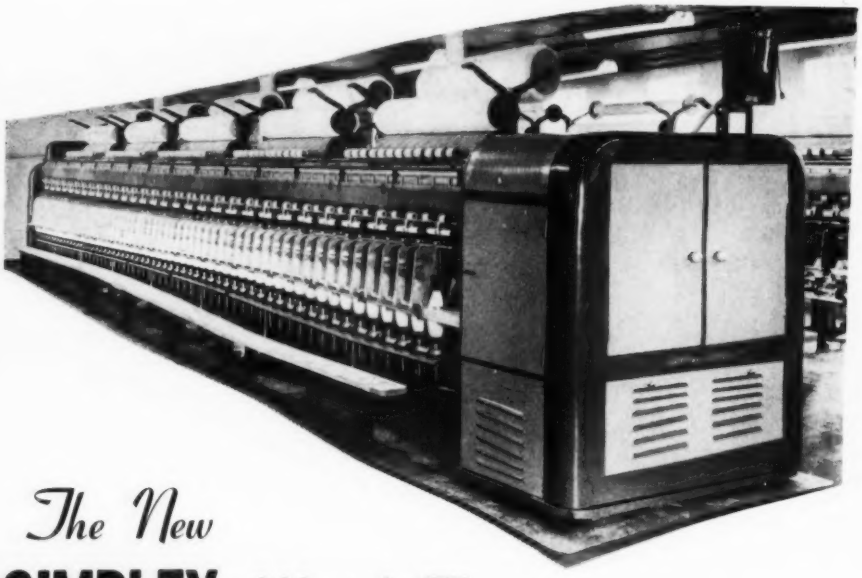


The New

SIMPLEX *Model* "F"

WOOL SPINNING FRAME

The value of machinery should be measured by its ability to maintain a good competitive position. Its performance should make up for high labor costs and other items of manufacturing expense.

Every deficiency in a machine costs something in waste, lost production, lower quality or cost of operation. All of these items affect a mill's costs and profits which determine its competitive position.

The new Davis and Furber Simplex wool spinning frame Model "F" is designed to meet conditions as they exist today. Carefully engineered and skillfully manufactured, the new Model "F" will enhance your competitive position. Greater efficiency and lower spinning costs, plus a minimum of maintenance or "down time" for repairs is the result of careful planning.

Model "F" is a superior machine which is backed by long experience and knowledge, and built by a company that has grown with the woolen industry.

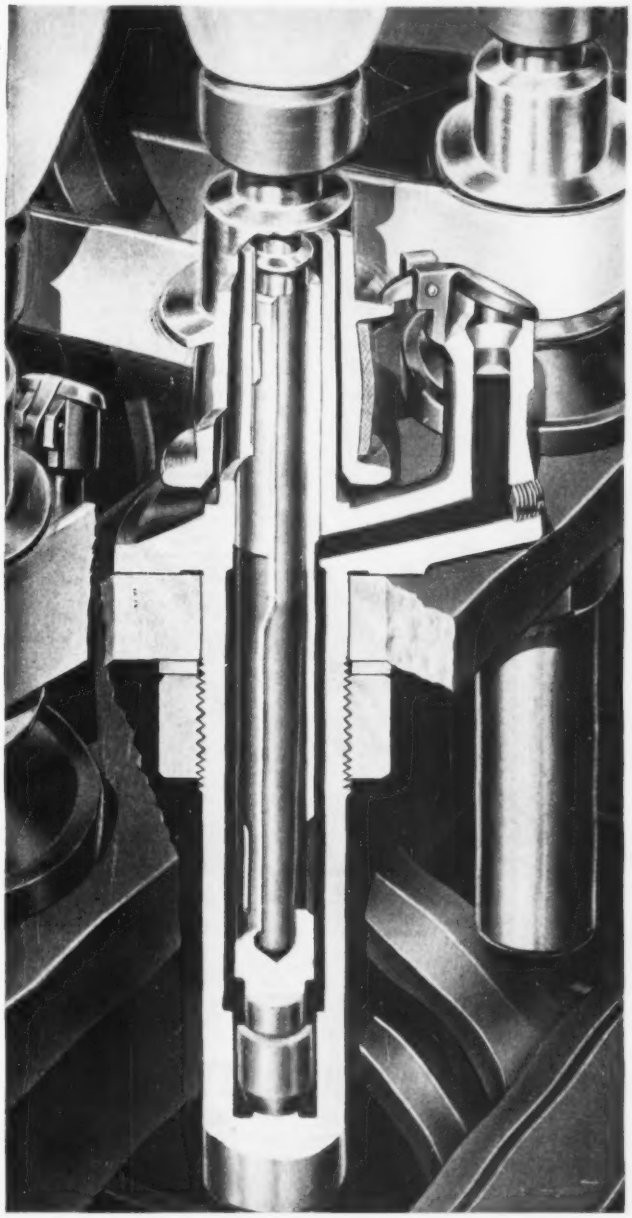
If you are considering a means of improving the quality of your yarn, yet lowering your spinning costs, investigate the new SIMPLEX WOOL SPINNING FRAME MODEL "F".

Davis & Furber Machine Co.

NORTH ANDOVER, MASS.

SINCE 1832

How Much Drag Have You Got on Your Spindles?



The Right Oil Will Solve this Problem, Help You Save Power!

A little drag here . . . on your spindles . . . caused by lubricating oils that thicken and gum up . . . will go a long way toward running up your power bills.

Quick-acting Gargoyle Velocite Oils are licking this problem in many mills. Exceptionally stable, they resist thickening, keep spindles spinning freely.

At the same time, these proved spindle lubricants adhere tenaciously to the metal, stay put despite the terrific speeds, protect against wear and dampen vibration.

Your spindles stay clean and wear longer. You make important savings in power costs and maintenance time and expense.

SOCONY-VACUUM

GARGOYLE Lubricants

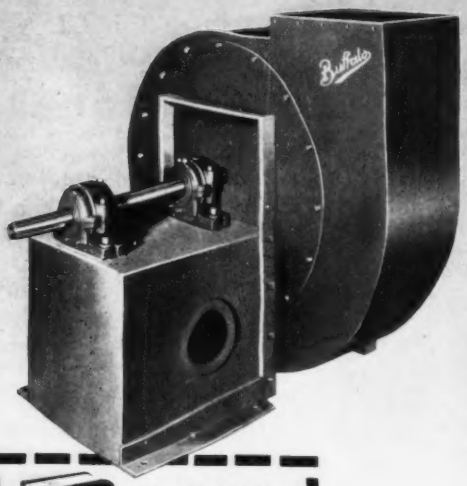
Rely on

SOCONY-VACUUM

CORRECT LUBRICATION

SOCONY-VACUUM OIL COMPANY, INC. and Affiliates:
MAGNOLIA PETROLEUM COMPANY
GENERAL PETROLEUM CORPORATION

"Buffalo" GIVES YOU LOWER COST AIR THAT "GENERATES" PROFITS!



INDUSTRIAL EXHAUSTERS

For Air And Materials

"Buffalo" Industrial Exhausters are helping textile mills in the vital jobs of removing moisture, fumes and fogs from process areas where constantly FRESH air is desirable both for product quality and increased production. *They are literally "generating" profits by controlling air,* AND at LOWER COST! "Buffalo" Industrial Exhausters, with their lighter, stronger all-welded construction STAND UP LONGER—and their smooth interior surfaces handle MORE air or materials on less power. For complete details, write now for your free copy of BULLETIN 3576

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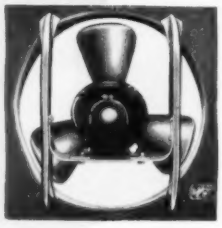
"A 1938 copy does exist in my office and has been found of immeasurable value . . . you can imagine that after ten years' constant use the veteran is almost due for retirement." Like this Chief Engineer of a prominent engineering firm, you will find the NEW 5th EDITION with its 808 pages of authoritative air facts EVEN MORE COMPLETE AND USEFUL TO YOU than its famous predecessor!

ORDER NOW! $6.00 *Postpaid*



BREEZO FANS

For Local Ventilation

Here's a *"lot of fresh air for a little money"*, as so many users of BREEZO FANS tell us. These sturdy, quiet-running fans are easily mounted in areas where workers need fresh air to keep more alert, healthy and PRODUCTIVE! Low in first cost, economically installed, and almost negligible in operating cost! Sizes to suit your need—8", 12", 16", 18", 20" and 24". An extremely small investment in better production. Write for—BULLETIN 3222-F

"Buffalo" FIRST FOR FANS

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VENTILATING FORCED DRAFT | AIR WASHING COOLING | AIR TEMPERING HEATING | INDUCED DRAFT EXHAUSTING PRESSURE BLOWING

Bright Prospect in a Grey Mood ...BY HOCKANUM

In dyeing, grey shades have always been associated, in a wry sense, with the grey hairs of dyers who have been searching for a grey dyestuff with good dyeing properties and maximum light fastness.

But today such textile leaders as Hockanum Woolens, creator of the worsted shown above, are getting excellent results by putting their confidence in Sandoz colors.

Two Sandoz achievements which have simplified dyers' problems in obtaining grey and pearl shades are

Alizarine Light Grey G Pat

a homogeneous dye of unusual dyeing properties and light fastness, which is recommended for acid dyeing of yarn and piece goods; and for acid or chrome dyeing of raw stock and worsted top;

Alizarine Light Grey RLL Pat

which has a degree of fastness to light, carbonizing and decatizing unequalled by any combination of chrome colors.

And for any chrome, acid or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you see in these Sandoz advertisements.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N.Y.

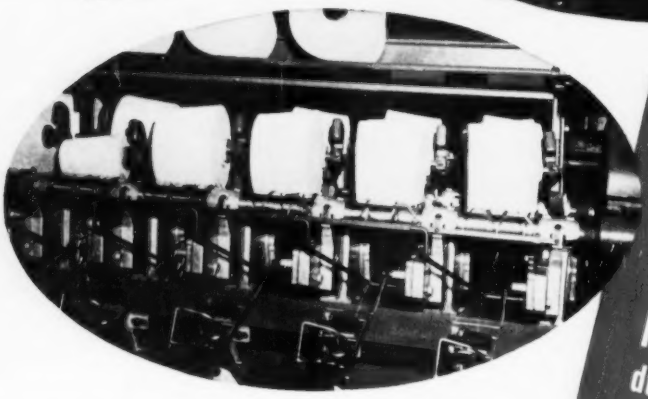
Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto • Other branches at Providence, Paterson and Montreal

SANDOZ *thinks ahead with textiles*

SMOOTH WINDING of Spun Rayon at Paul Whitin Company

Spun rayon yarn is wound onto warping cones at the Paul Whitin Company, Northbridge, Mass., by the Roto-Coner*, the modern drum winder built around the exclusive rotary traverse.

This grooved roll, in addition to rotating the winding package, also traverses the yarn. Both the conventional reciprocating guide and the slip drum are eliminated, and with them, a constant hazard to yarn quality.



SMOOTH OPERATION of Roto-Coners* due to Modern Design

The streamlined design of the Rotor-Coner* winder provides many operating conveniences. Starting handles, tensions and shelf for finished packages are conveniently located. Lint-proof housing protects the operating mechanism, open design makes cleaning easy. A conveyor belt takes away empty bobbins. And the machine runs quietly, without annoying clatter.

In the photograph, note the cast-iron rolls recommended for spun rayon and also the combination blade-and-needle slub catchers.

UNIVERSAL WINDING COMPANY

P. O. Box 1605 • Providence 1, R. I.

Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland

Agents in every principal textile center throughout the world

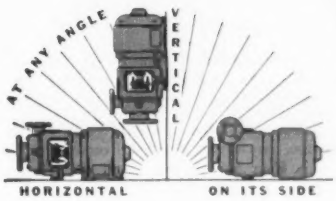
* Reg. U. S. Pat. Off.

ROTO-CONER* *the only machine with the rotary traverse*

THE BACKBONE

of PRODUCTION

the Ingersoll-Rand MOTORPUMP



No matter what the processes in your phase of manufacture, there undoubtedly are pumps involved . . . pumps that are the backbone of your production. When you think of pumps in this light, dependable pumps mean continuous production.

When you talk about dependable close-coupled pumps you're talking about the INGERSOLL-RAND MOTORPUMP line. There are hundreds of sizes and models available to meet a multitude of conditions. These are compact, self-contained units built for heavy-duty service.

Each MOTORPUMP is just what the name implies . . . an electric motor and pump combined. Special motors are equipped with extra-heavy shafts and bearings. The pump with balanced impeller is assembled directly on the motor shaft. This compact construction gives perfect balance, vibrationless operation and extreme rigidity. The MOTORPUMP involves no large installation cost because it requires no special foundation, will operate efficiently in any position, horizontally, vertically, at any angle or on its side. Sizes ¼ to 40 horsepower . . . gallons to 1800 per minute . . . heads to 600 feet.

You can depend on Ingersoll-Rand MOTORPUMPS to ease your pumping headaches. Factory trained pump specialists from coast to coast are always ready to help you and can give you prompt shipment.

COMPRESSORS
TURBO BLOWERS
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PUMPS
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11 Broadway, New York 4, N. Y.

YOU CAN BE **SURE**.. IF IT'S

Westinghouse

Micarta Lap Rolls now in use in leading textile mills (names on request) are helping to step up production, cut costs.

Cut deadweight 46%

with Micarta Lap Rolls

Here's the dependable, lightweight lap roll the textile industry has been wanting.

Micarta research has produced it . . . in co-operation with Saco-Lowell Shops, world-renowned builder of textile machinery, and leading mills in New England and the South.

Extensive tests in actual applications have shown the Micarta Lap Roll to have these outstanding advantages:

1. **LIGHTWEIGHT.** Weighs 46% to 49% less than wood rolls. Elimination of this dead weight increases efficiency, boosts production 15% and more. Some mills are winding up to 3 lbs additional cotton on each lap. Workmen like the light weight of the empty rolls, are able to increase output. One mill found that a man can handle three machines instead of two . . . paid for Micarta Lap Rolls in a single year through resultant savings.
2. **RESISTS ABUSE** . . . won't chip or splinter . . . withstands the punishment of rough handling and increased loads. Maintenance is eliminated.
3. **FAST PICKUP** . . . picks the lap up *fast* . . . avoids overlapping and waste in the lap . . . gives more uniformity in the finished yarn.

For data and application help, consult your nearby Westinghouse office, or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Penna.

Ask for a copy of Bulletin B-4359, which tells how Micarta Lap Rolls were developed, tested, and the advantages and economy they will bring to your operations. J-06432

Micarta

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We are makers of the Continental and English systems of Combing, Drawing, Spinning and Twisting. This unique position means we can offer you our services no matter which system you are interested in

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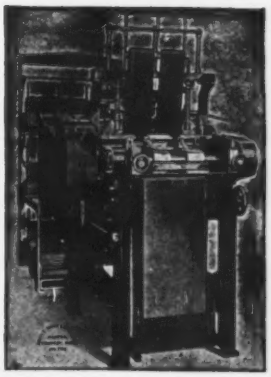
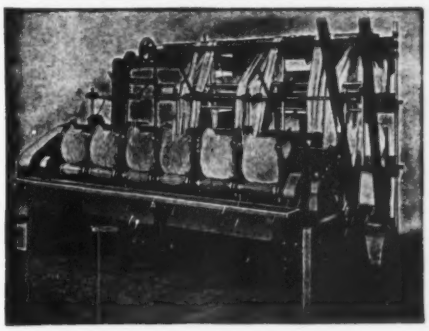


DOUBLE HEAD CAN
INTERSECTING GILL BOX



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When you are considering extensions or alterations to your plant may we have the pleasure of offering you our services?

Agents U.S.A. and Canada — English system machinery. Atkinson, Haserick & Co., 211 Congress St., Boston 6, Mass.
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Atkinson, Haserick & Company's customers receive a service that extends from engineering consultation to rushing a single part for an emergency repair; that covers importing, distributing and manufacturing.

It's this complete, convenient service that has sold Atkinson, Haserick & Company to the industry for 126 years.

Try it yourself.

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AUTOMATIC FILLING WINDER

High Speed Shuttle Bobbin Winder
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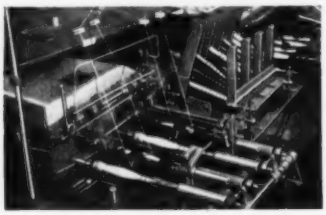

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Preparers, Backwashers
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Cotton Cleaning and Distributing System

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Hydro Extractors, Yarn Curling Machines

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HOLDSWORTH GILL SCREW CO., INC.

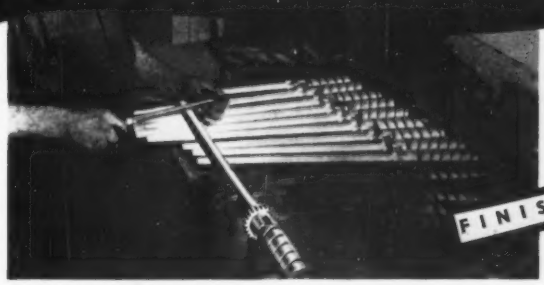
WHY HOLDSWORTH GILL SCREWS LAST LONGER

How long your fallers last will depend upon the precision cutting and finishing of the screws. Starting with 1⅞ inch bars of selected, free cutting, machine steel Holdsworth Screws are roughed out on turret lathes. After inspection for flaws in machining they will go to the fine or coarse threading lathe and then finally finished to size. The skill of these machinists determine the life of the screw.

The precision cutting and finishing of Holdsworth Screws eliminates vibration of fallers especially for intersecting machine use where the slightest variation will throw the pins out of line causing costly damage to the fallers and screws. Holdsworth 5/16, ⅜, 7/16, and ½ inch pitch screws are given rigid tests for trueness of pitch before and after finishing operations. When screws are fitted with Holdsworth Cams each is tested to see that the fallers are smoothly transported and maximum service and durability can be expected.

Be sure to specify Holdsworth for screws, fallers, Gill Boxes, or Intersecting Gill Boxes.

48 HOUR REPAIR SERVICE! *Recutting gill screws*



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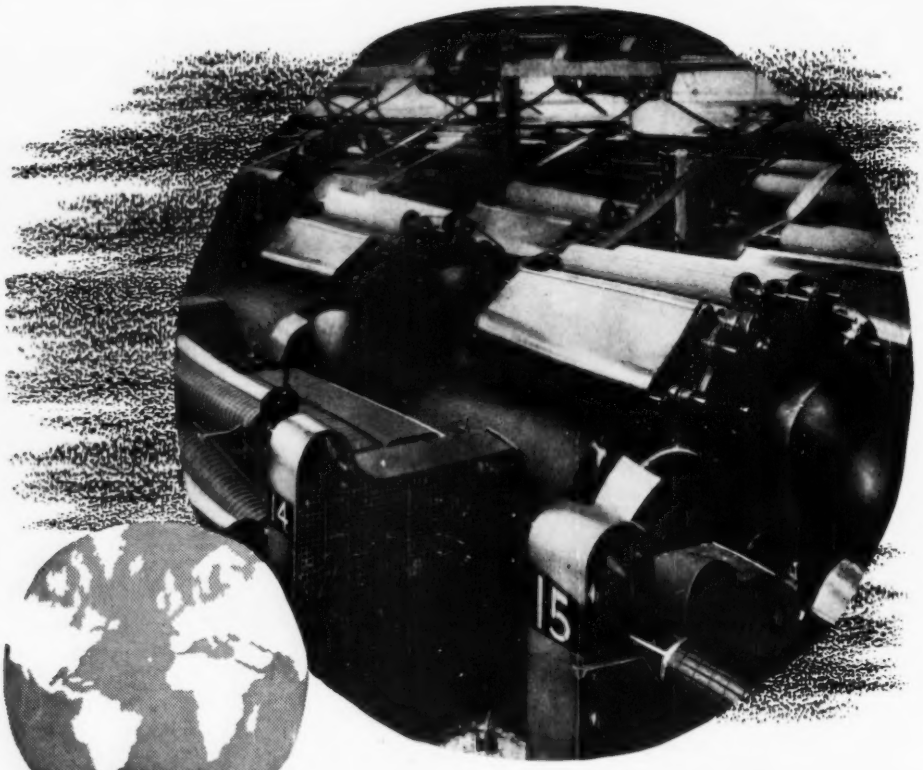

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For every class of work, the set of cards recommended can be relied on to give the highest production compatible with quality. For existing carding sets in good condition, rapid modernisation, affecting feeds and condensers, assures an improvement in both production and quality.

Literature dealing with new machines and improvements to existing machinery is available.

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Tip-Offs that **Pay Off**

The Blade-of-Grass Test

One of the greatest outfielders in the history of baseball used to throw a blade of grass into the air every time he went to his position. Why? Easy! . . . he was smart. Winds in a ball park are tricky and to test the wind with a blade of grass meant catching balls, winning games, a pennant, the series, and *more dough* . . . a subject dear to a ballplayer's heart.

The Who's-Listening-To-What Test

"How's your Hooper" is the popular greeting with radio entertainers. That is, it's popular if the Hooper is good . . . for the Hooper is a test of a program's popularity determined by thousands of phone calls throughout the day asking people in homes "What program are you listening to?" Naturally, a good Hooper pays off.

The Down-To-Earth Test

Warning! Before you buy that little farm . . . that place to get away from it all . . . be sure to have the soil thoroughly tested. It will save you plenty of headaches.

The How-Many-Feet-in-a-Gallon Test

Here's the tip-off that pays off on paints. When considering paints for the interior of your plant, *forget about the cost per gallon.* It doesn't mean a thing. The real factors to consider are the number of square feet of proper coverage you get per gallon and . . . because labor represents 80% of your total cost . . . *the time involved for painting.*

See for yourself. Compare a gallon of any paint you want with a gallon of Barreled Sunlight. Thin them both according to directions. Put them on a wall. Check the number of square feet each covers. Check the length of painting time for each. Note the difference in appearance after drying. You'll be thoroughly convinced that Barreled Sunlight . . . even though it costs more per gallon . . . will give you a better-looking, long-lasting paint job *for less money* than any other paint.

It will pay you to talk with your nearest Barreled Sunlight representative. Write, and he'll call.

U.S. GUTTA PERCHA PAINT COMPANY
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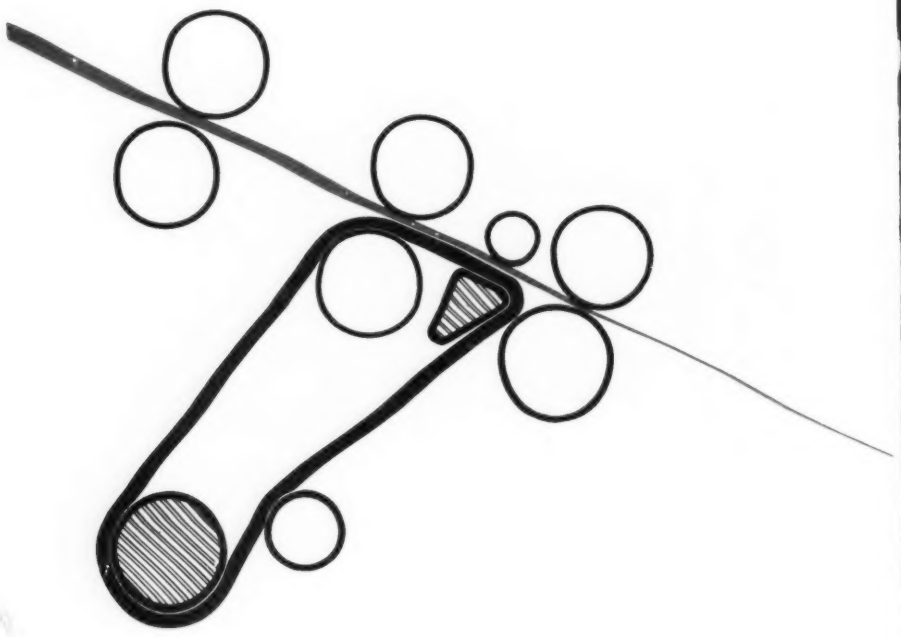
Barreled Sunlight *Paints*

In whitest white or clean, clear, pleasing colors, there's a Barreled Sunlight Paint for every job

Accotex single belt system aprons



ACCOTEX COTS—like Accotex aprons—produce a more uniform yarn.

ACCOTEX J-490 . . . Plain synthetic rubber covering especially useful where synthetic fibers are run on cotton system equipment or wherever maximum lap-resistance is necessary.

ACCOTEX NC-727 . . . A cork-loaded synthetic rubber cot that combines the superior drafting properties of cork with the long life of rubber. Because of the cork content, NC-727 produces less eye-browing than any other synthetic cot. It will not slick up and drafts a more uniform and stronger yarn.

Whether you are spinning cotton, wool, or synthetic fibers, Armstrong can supply you with a cover especially formulated for the job. Your Armstrong representative will gladly arrange a test installation in your mill. Available for export.

ACCOTEX COTS
CORK COTS

are SEAMLESS and SMOOTH

. . . help reduce downtime and prevent uneven yarn

There are no seams to crack open—no seams to cause irregular slip-roll action in Armstrong's Accotex® Aprons. Thus they eliminate shutdowns caused by broken aprons. And by permitting slip rolls to run smoothly, they help produce a strong, uniform yarn.

Made of Accotex rubber, they have a tough surface that stays smooth and resilient. They won't scuff or become hard or brittle with age. They resist grooving. Consequently, Accotex aprons produce clean running work, with little waste.

Accotex rubber gives the aprons excellent flex life, too. They hug the nose bar without buckling. And you won't be bothered with "curled" edges because Accotex Aprons are built on a sturdy cord interliner that absolutely will not allow them to stretch.

Unaffected by oil, temperature changes, or humidity, Armstrong's Accotex Aprons will always fit snugly on your frames.

See for yourself how the carefully engineered materials and construction of Accotex aprons outperform natural products. Ask your Armstrong representative to arrange a test installation in your own mill. Call him today. Or write Armstrong Cork Company, Textile Products Department, 8306 Arch Street, Lancaster, Pennsylvania. Available for export.

Armstrong's Accotex Aprons are available for single apron and double apron long draft equipment for roving as well as spinning frames. They are ground to the exact thickness you specify and are uniform in over-all dimension.

ARMSTRONG'S ACCOTEX APRONS

UXBRIDGE

Chooses The Fleet Line CARBONIZING RANGE

THE FLEET LINE

Cloth Washers
Fulling Mills
Piece Dye Kettles
Dye Becks
Rope Soapers
Carbonizing Ranges
Squeeze Roll Extractors
Bleaching Equipment
Soaping Machines
Soap Distributing Systems
Continuous Dry Cleaners
Tenter Dryers
Stock Dye Kettles
Top Dyeing Machines
Crushers
Yarn Steamers
Rolls, Reels, Parts

Infra-Red Carbonizing Bakers
Progressive Jigs
Pusher Mills
Stainless Steel Tanks

Let us make recommendations for YOUR wet finishing modernization requirements.

Uxbridge Worsted Corp., Uxbridge, Mass. is only one of the many textile companies which have included the Fleet Line Carbonizing Range in their modernization programs. This unit consists of wet out tank, heavy 18" squeeze rolls, acid soaking tank, another set of heavy 18" squeeze rolls, 12-pass cloth tenter dryer (127 yds. capacity) and infra-red lamp baker. Noteworthy features include the following:—

1. **Speed of range is synchronized with speed of dryer, which is set manually. Dryer operates at 10 to 40 y.p.m.**
2. **Acid tank has one-piece vulcanized rubber lining, giving long life and eliminating leakage and repairs.**
3. **Extra large tank, gives longer soaking time for better penetration.**
4. **Two sets of heavy squeeze rolls, and three sets of smaller squeeze rolls assure thorough acid penetration and good extraction.**
5. **Air agitation keeps bath circulating.**

RIGGS AND LOMBARD

Foot of Suffolk St., Lowell, Mass.

INCORPORATED

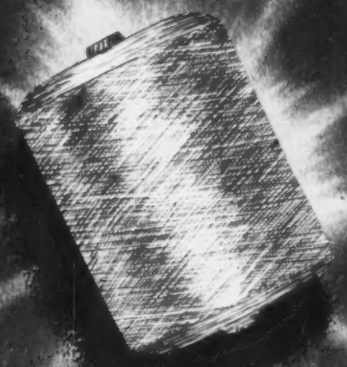
AGENTS: Paul A. Merriam, 1491 Broad St., Providence, R. I.; Harold C. Osler, 6312 Sherwood Road, Philadelphia, Pa.; Charles H. Dunker, 1236 South Maple Ave., Los Angeles 15, California; Albert R. Breen, 80 Ea. Jackson Blvd., Chicago 4, Illinois.

What is it that has . . .

DIAMOND-LIKE COLOR

DIAMOND-LIKE QUALITY

DIAMOND-LIKE VALUE



IT'S FLORENCE TAILORED COLOR YARN . . . THE YARN THAT MAKES

your end product better!

Florence Tailored Color offers you three advantages that enable you to make your end product better: COLOR individually tailored by our laboratory experts to give you the exact shade and exact color fastness you specify . . . QUALITY of the very highest, which is controlled throughout . . . VALUE assuring you the greatest opportunity for profit.

Florence Tailored Color is the complete processing of cotton, wool, synthetic and blended yarns including dyeing, bleaching, finishing and winding. We *tailor color* yarn either supplied by you or obtained by us. Take advantage of the exclusive features of *Florence Tailored Color* and make your product better. For full information write today.

FLORENCE THREAD CO., INC.

ESTABLISHED 1894

Fairview Street, Riverside, New Jersey—Phone Riverside 4-0211

New York Sales Office: 55 W. 42nd Street, New York 18, N. Y.

Package Dyers and Processors of Cotton, Wool, Synthetic and Blended Yarns

Processors and Distributors of "USTEX"* Industrial Sewing Threads

*Trade Mark Registered U. S. Pat. Off. By United States Rubber Company

AT LAST... a jacket that laughs at the weather!

. . . Thanks to GEON polyvinyl resins

This reversible poplin jacket for golfers and other outdoor men has a lot extra on the ball!

Roomy around the shoulders, snug around the waist, it is a champion windbreaker that keeps you warm despite the weather—yet you enjoy this warmth with 40% less weight! That's because of the light but tough Geon resin film that lines the entire jacket. Reversed, this jacket keeps you dry even in the heaviest rain—thanks to Geon's amazing combination of qualities.

Many products have benefited from Geon's versatility — it beautifies kitchens, makes strong and handsome floors, wear-resistant upholstery, long-wearing raincoats—to mention but a few of its many uses. Perhaps these suggestions give you an idea to improve, cut costs, or even initiate a product! For Geon can be calendered, used for coating, extruding and film casting.

If we have suggested a new use for Geon polyvinyl resins, please let us know and we will send you full information on these remarkable materials.

We do not make any finished products from Geon but we are glad to give you full information and suggestions for its most profitable use. Write B. F. Goodrich Chemical Company, Dept. L-3, Rose Bldg., Cleveland 15, Ohio. In Canada: Kitchener, Ontario.

Complete reversible poplin jacket by the House of Timmons, Twinsburg, Ohio. Prestoflex Film Lining by Presto Plastic Products, New York, N. Y.

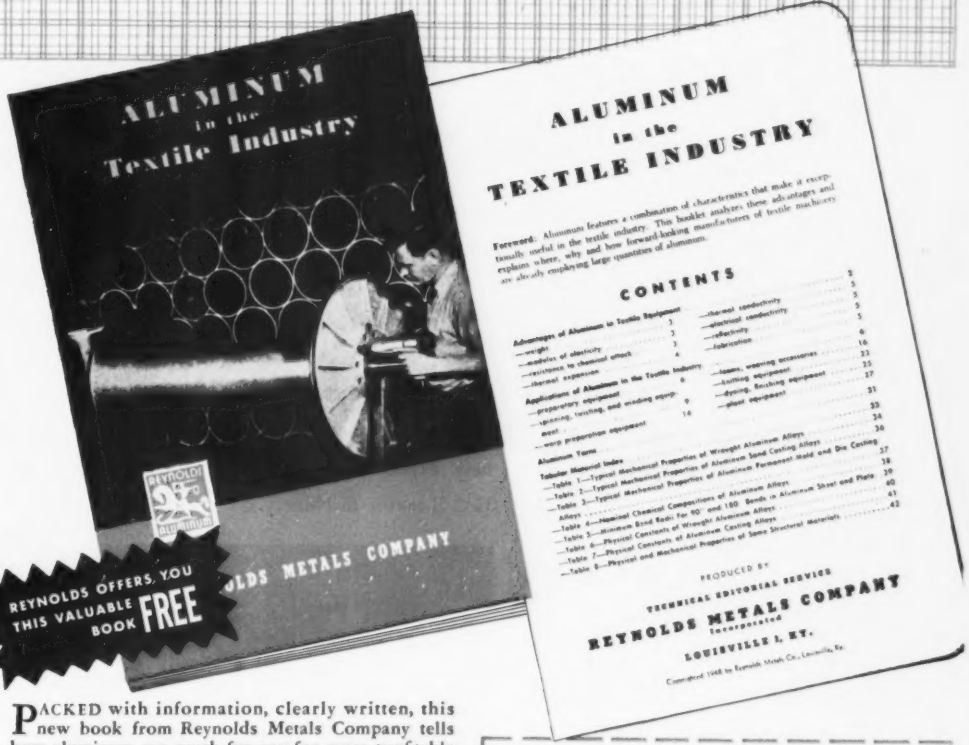
B. F. Goodrich Chemical Company

A DIVISION OF THE B. F. GOODRICH COMPANY

GEON polyvinyl materials • HYCAR American rubber • GOOD-RITE chemicals and plasticizers

Read "ALUMINUM IN THE TEXTILE INDUSTRY"

Learn HOW NEW USES OF ALUMINUM CAN SOLVE YOUR PROBLEMS AND PRODUCE GREATER PROFITS.


ALUMINUM
in the
Textile Industry
REYNOLDS METALS COMPANY
ALUMINUM
in the
TEXTILE INDUSTRY
Foreword: Aluminum features a combination of characteristics that make it excep-
tionally useful in the textile industry. This booklet analyzes these advantages and
explains where, why and how forward-looking manufacturers of textile machinery
are already employing large quantities of aluminum.
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—resistance to chemical attack 4
—thermal expansion 6
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PRODUCED BY
TECHNICAL EDITORIAL SERVICE
REYNOLDS METALS COMPANY
Incorporated
LOUISVILLE 1, KY.
REYNOLDS OFFERS YOU THIS VALUABLE BOOK FREE

PACKED with information, clearly written, this new book from Reynolds Metals Company tells how aluminum can work for you for more profitable production. There are numerous examples and illustrations of aluminum uses already at work . . . bringing new savings to the textile industry. Based on recently compiled technical data, you'll find "ALUMINUM IN THE TEXTILE INDUSTRY" interesting and informative.

You can have this book free by sending your request at once. We want its vital facts to reach everyone quickly. To insure receiving your copy, send your request now.

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Gentlemen:
Please send my free copy of your new book, "Aluminum in the Textile Industry".
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Company_____ Title_____
Address_____
City_____ Zone____ State_____

IF YOU SEE RUST YOU KNOW IT'S NOT ALUMINUM

REYNOLDS Lifetime ALUMINUM

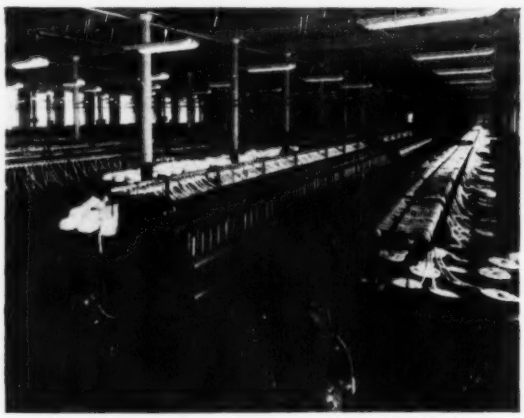
THE COMPLETE ALUMINUM SERVICE FROM BASE METAL TO FINISHED PARTS

"Those 24 new slubbers you built for our mills are certainly grand machines. We could not ask for better. They are turning out a beautiful product, and about all the attention they need is creeling, doffing, and cleaning. Ends down on them are nearly as scarce as hen's teeth. Everybody who has anything to do with them is delighted that we have them.

"The three new opening rooms you furnished and the nine single-process pickers you installed are likewise most satisfactory and doing excellent work. The picker laps are clean, firm, and very even and contain virtually no neps. It is all very excellent machinery.

"Rest assured that when we are again in the market for new machinery, we shall be only too glad to figure with you on it."

The quotation herewith is from a letter recently received from a well known New York firm, operating a group of southern mills. This company's experience indicates what YOU may expect if you modernize with H & B textile machinery.



TYPICAL INSTALLATION OF H & B HIGH-DRAFT SLUBBERS

H&B AMERICAN MACHINE CO.

Builders of Modern Textile Machinery

FACTORY, EXECUTIVE OFFICES AND EXPORT DEPARTMENT • PAWTUCKET, R. I., U. S. A.

BRANCH OFFICES:—Atlanta, Ga.-815 Citizens & Southern National Bank Bldg.; Charlotte, N. C.-1201 Johnston Bldg.

For less bolster wear, smoother running spindles,

Gulf Lubrication Engineers recommend

Superrefined by Gulf's exclusive Alchlor Process, Gulfgem Oil has unmatched resistance to oxidation and sludge deposits. Thus Gulfgem lasts longer in spindle service — users report that it outlasts spindle oils by as much as four to five times.

With good operating practice Gulfgem Oil reduces frequency of cleaning bolsters. Cleaner spindles and bolsters insure substantial savings in power costs!

Gulfgem Oil has outstanding lubricating qualities—insures less wear, fewer spindle and bolster renewals, and greater freedom from spindle wobble.

Call in a Gulf Lubrication Engineer today and ask him to explain the many advantages of Gulfgem Oil. This superior spindle oil is available in four grades with the proper range of viscosities for every type of high speed spindle. Write, wire, or phone your nearest Gulf office.

Gulf Oil Corporation · Gulf Refining Company

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Boston · New York · Philadelphia · Pittsburgh · Atlanta
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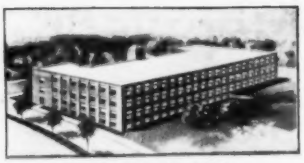
GULF INDUSTRIAL LUBRICATION

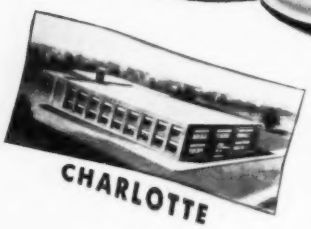
FALL RIVER



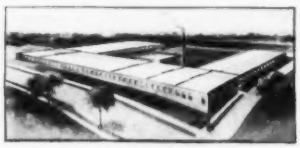
WORCESTER

PHILADELPHIA

TO SERVE PROPERLY



CHARLOTTE



GREENVILLE

ATLANTA

TEXTILE SUPPLY CO.
DALLAS
(not shown)

Change is common to all industries and those who serve them must change also, if they are to serve properly.

During more than a half century of service to the textile industry, Ashworth's policy has never been static. New products, improvements in old products, new repair shops and new factories have been added as the need arose. Today we can properly serve all members of the textile industry in all areas with 4 factories, 6 repair shops and 7 distributing points, including our new modern factory at Greenville, S. C.

But Ashworth Service goes beyond the manufacturing of a complete line of top quality card clothing products. It also includes a free advisory service regarding the correct wire and foundation for a given purpose and correct card settings and speeds; PLUS complete free card surveys with written reports which enable mills to plan repairs over a period with minimum loss of production time. We make our surveys regularly for many leading cotton mills, while our recommendations have enabled woolen mills, in some cases, to increase their card production as much as 30%.

Write us at Fall River and tell us your card clothing problem.

PRODUCTS AND SERVICES

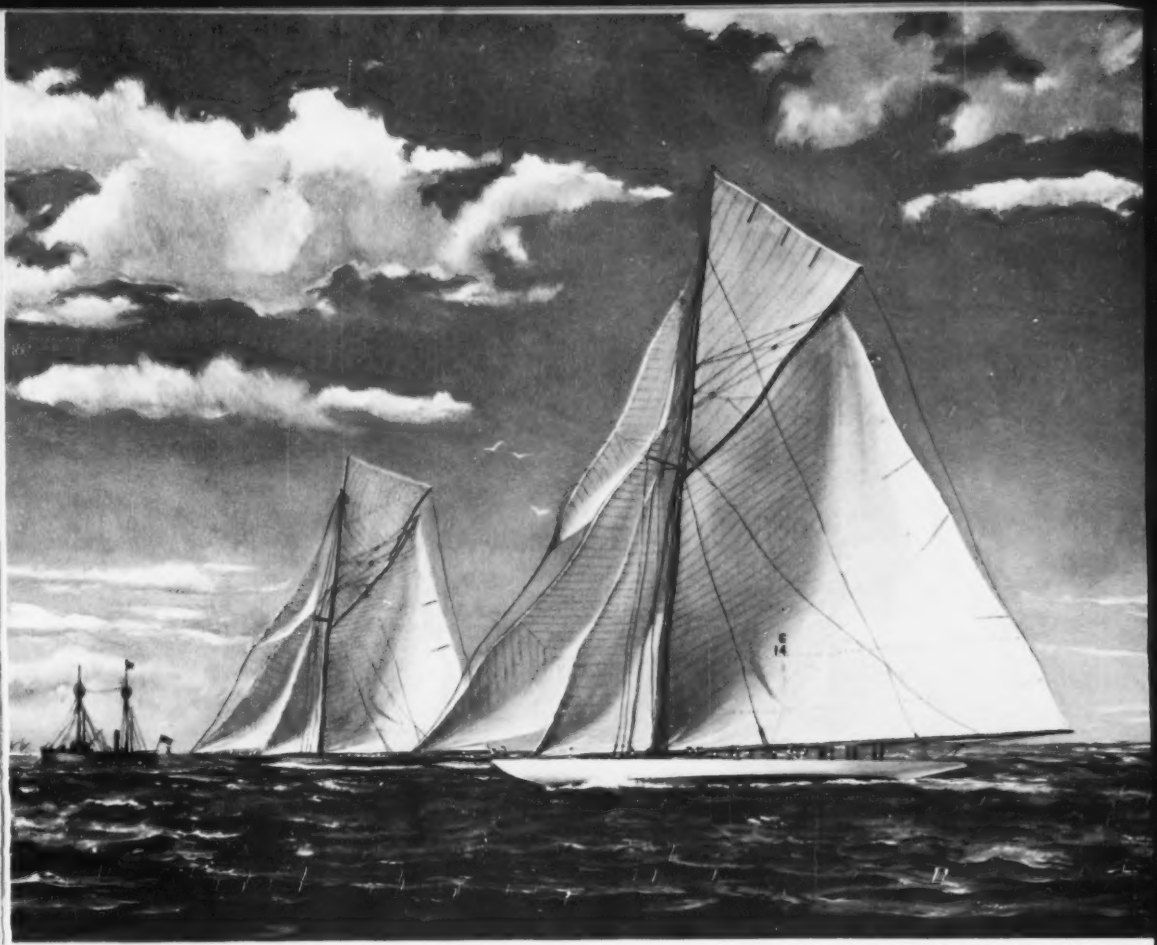
Card Clothing for Cotton, Wool, Worsted, Silk Rayon and Asbestos Cards and for all types of Napping Machinery. Brusher Clothing and Card Clothing for Special Purposes. Lickerin Wire and Garnet Wire. Sole Distributors for Platt's Metallic Wire. Lickerins and Top Flats Reclothed.

ASHWORTH BROS., INC.
AMERICAN CARD CLOTHING CO.
(Woolen Div.)

FALL RIVER *†‡ WORCESTER*‡
PHILADELPHIA*†‡ ATLANTA†‡ GREENVILLE†‡*
CHARLOTTE‡ DALLAS‡ (Textile Supply Co.)
*Factory †Repair Shop ‡Distributing Point

Ashworth PIONEERS IN CARD CLOTHING

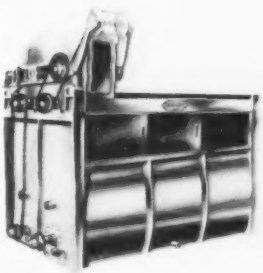
4 FACTORIES • • • 6 REPAIR SHOPS • • • 7 DISTRIBUTING POINTS



One of a series painted for Rodney Hunt by Ben Stephenson

FAMOUS FINISHES . . the closest of all the famous races for the America's Cup was in 1901. Sir Thomas Lipton's "Shamrock II" and America's "Columbia" were overlapping at the finish line at Sandy Hook. Because of a 43 seconds handicap, the "Columbia" actually won by 41 seconds after 30 miles and 41½ hours of racing.

THE "famous finishes" of the Exeter Manufacturing Company on cotton fabrics date back far beyond the earliest races for the America's Cup. One reason for Exeter's reputation is its constant search for better machinery. Exeter was among the first to use the new "Tensitrol" Rope Washer in continuous bleaching. Says its Supervisor of Finishing: "I think it is the best washer to come out since I have been in the business." You are invited to turn the page for more specific information about "Finishing For Profit."



RODNEY HUNT

RODNEY HUNT

Established 1840

ORANGE 10, MASSACHUSETTS, U. S. A.

"Tensitrol," "Tru-Shade," "Slack Loop," "Wring-Master," and "Curve-of-Strength" are registered trade marks identifying textile finishing machinery manufactured exclusively by Rodney Hunt Machine Co.

Finishing For Profit

RODNEY HUNT

Established 1840

RODNEY HUNT MACHINE CO.
ORANGE 10, MASSACHUSETTS, U.S.A.

Story of a "Tensitrol" Washer

THIS "Tensitrol" Rope Washer left the Rodney Hunt plant by truck one Saturday morning.

Sunday afternoon it is all set up and operating in the mill.

On Monday at 7 a.m. it goes into full production as a caustic washer in a continuous bleaching range.

First test: to determine the efficiency of the counterflow of water:
Station No. 1 – Where cloth enters machine.
Station No. 2 – 1/3 distance through machine.
Station No. 3 – 2/3 distance through machine.
Station No. 4 – Where cloth leaves machine.

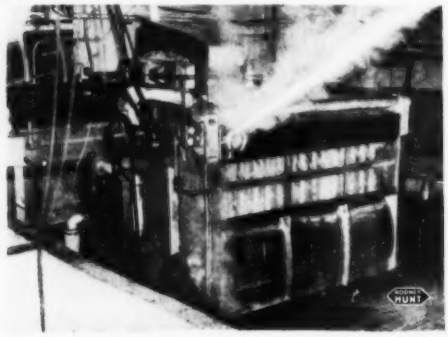
Caustic content in the water at stations above:
Station No. 1 – 0.188%
Station No. 2 – 0.056%
Station No. 3 – 0.012%
Station No. 4 – 0.0004%

Conclusion: *Excellent efficiency of counterflow.*

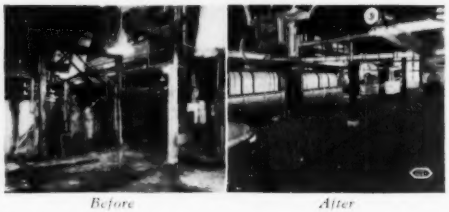
Second test: to determine washing efficiency. The "Tensitrol" Rope Washer versus two Tight Strand Washers, as used for caustic washing in bleach range.

Caustic Wash	*2 Tight Strand Washers*	*1 "Tensitrol"*
Average speed	200 YPM	200 YPM
Water used	300 gal. per min.	80 gal. per min.
Horsepower	40 HP	20 HP
Floor space	225 Sq. Ft.	50 Sq. Ft.
Caustic content leaving machine	0.03% NaOH	0.008% NaOH

Conclusion: *In efficiency of wash—one "Tensitrol" Rope Washer equals eight Tight Strand Washers. Saving of 50% in horsepower. Saving of 80% in floor space. Saving of 70% in water consumption.*



"Tru-Shades" Pay for Themselves In Two Years!



Before *After*

IN two years, according to this mill owner, he got back his investment on six modern Rodney Hunt "Tru-Shade" Dye Kettles.

How? The six "Tru-Shades" replaced 12 wooden machines which resulted in lower power costs, less handling, fewer seconds, and less floor space. The big saving, however, was in labor due to the ease of changing from dark to light shades.

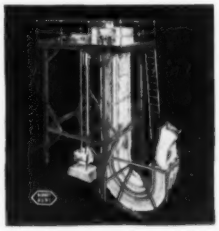
In addition, the owner got rid of tangles and tension and his dyeing is now uniform. A pleasing dividend in quality.

"Tru-Shades" eliminate the No. 1 bugaboo of stainless fabrication – bulging and flexing. Their patented "Curve-of-Strength" construction provides a tub formed precisely to the correct arc to balance the weight of the dye liquor.

Is it any wonder that more "Tru-Shades" are in use today than all other stainless steel dye machines combined?

* * *

No Weak Links In Highest Speed Bleaching Range



THERE should be no "weak links" in your new complete Bleaching Range. In making such a major investment, it is important to make sure that no single piece of the equipment detracts from the performance of the whole. A production break-down can be costly indeed.

Each machine in the Range must be dependable, designed right and built right for years of productive service. That is why Rodney Hunt's more than 100 years of specialization and leadership in wet finishing equipment are so important. Rodney Hunt has pioneered most of the major improvements in Washers, Saturators, Wringers and J-Boxes.

Drive and control equipment is nearly as important as the machines themselves. Here again, Rodney Hunt's experience can help. They supply complete "packaged" units—including all machines, accessories, drive and control equipment. This means that one company – Rodney Hunt – will assume all responsibility for the satisfactory operation of your *complete* range.

Rodney Hunt is today installing several complete Bleaching Ranges to be run at 300 yards per minute – *the highest speed ranges in existence!*

* * *

If further information is desired on the above subjects, please address your inquiries to the Rodney Hunt Machine Co., Orange 10, Massachusetts, U.S.A.

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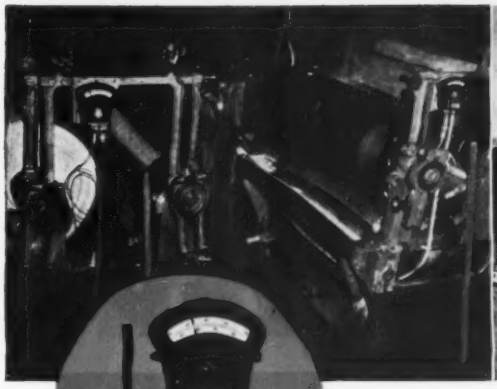


LSI CONTROL

DYE JIGS, PADDERS *and* DYE BOXES

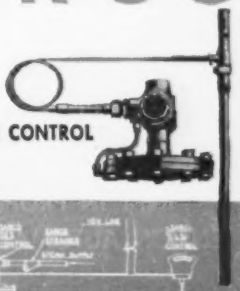
Temperature Controlled with

SARCO

Uncontrolled heat means uncontrolled colors in the dyeing industry. And too much heat frequently ruins the cloth.

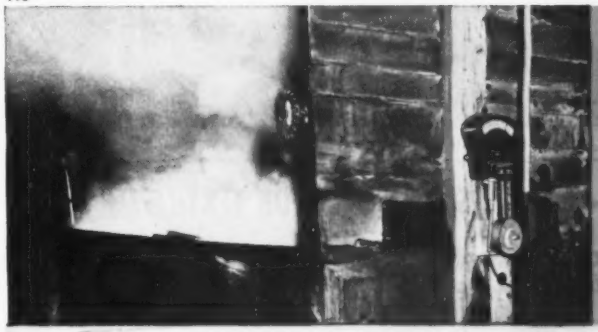
Sarco Electric Control, applied to every process, insures the entire plant operation. It increases production with less steam used because no heat is wasted. It reduces rejects and provides flexibility. A turn of the knob on the LSI control changes the temperature. This can be done as often as desired on a single run of cloth.

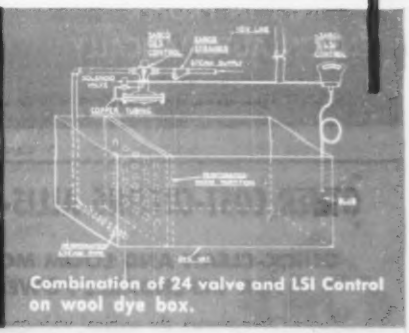
The Sarco LSI control is not expensive and is easy to install. Ask for Catalog No. 1025.



2430 CONTROL

193





Combination of 24 valve and LSI Control on wool dye box.

SARCO SAVES STEAM

SARCO COMPANY, INC.

Represented in Principal Cities

Empire State Building, New York 1, N. Y.

SARCO CANADA, LTD., TORONTO 5, ONTARIO

NEW SHEAVE *Changes Speed*

OTHER COST-CUTTING ALLIS-CHALMERS PRODUCTS FOR TEXTILE MILLS!

QUICK-CLEAN AND LOOM MOTORS FOR DEPENDABLE POWER

Quick-Clean motors, the original wide-open textile motors, now have ball bearings lubricated and sealed at the factory. They need no attention for years. Proper lubrication is assured and usual bearing maintenance procedures are eliminated. Sizes from 2 to 15 hp. *Loom motors*, immediate delivery, totally-enclosed, non-ventilated type, ¾ and 1 hp.

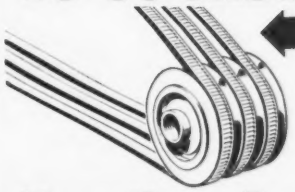
DIELECTRIC HEATERS FOR FAST, LOW-COST DRYING

Outstanding records in many textile mills for faster twist setting, cake drying and other drying operations. This method offers better quality control because of close heat control . . . and greater product uniformity because heat is uniform throughout material regardless of thickness. Results cannot be duplicated by any other process.

Without Stopping

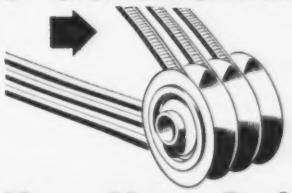
INSTANT SPEED CONTROL AT LOWER COST THAN EVER BEFORE

TO GO FASTER



Move Motor Forward

TO GO SLOWER



Move Motor Back

---- ONE HAND DOES IT...*While Motor is Running*

★Covers most speed changing needs from 3 to 20 hp.

★Extremely simple—one sheave does all.

★Infinite variations to approximately 2:1 speed range.

★No need to stop machine or take load off.

Here is the simplest, lowest cost way ever devised of changing machine speeds without stopping the machine. Simply move the motor forward to increase speed and move it back to decrease speed. The new *Vari-Pitch* Automatic Sheave adjusts groove width and side pressure to the new belt position *automatically*. Proper belt tension is always maintained. All other parts of the drive are standard *Texrope* V-belt drive components.

This new method of speed control means easier, better control of loom, spinning frame, and other machine speeds. Speed can be adjusted instantly for changes in materials, to get every last ounce of production from each machine. You lose no production because the machine continues to operate.

The Vari-Pitch Automatic Sheave saves you money three ways . . . low initial cost . . . higher production from each machine . . . less down time for changes. Get complete details from your A-C Authorized Dealer or Sales Office or write for Bulletin 20B7223.

ALLIS-CHALMERS, 1056A SO. 70 ST.
MILWAUKEE, WIS.

Texrope, Vari-Pitch and Quick-Clean are Allis-Chalmers trademarks.

ALLIS-CHALMERS

A-2731

Originator of the Multiple V-Belt Drive for the Textile Industry

Do you measure salt by RULE OF THUMB?

For Accurate Salt Measurement "PASS the SALT" by LIXATOR*

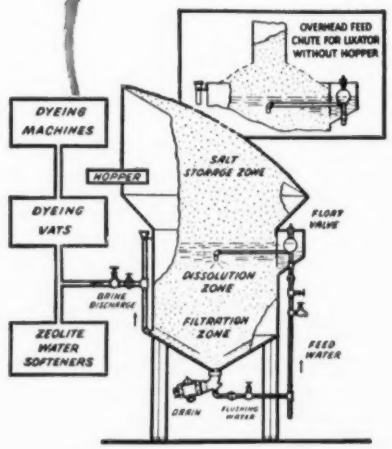
RULE of thumb measurement of salt by volume, in bucket or shovel, or by weight is inaccurate and wasteful.

For example, in measurement by dry salt volume, one cubic foot of dry salt will weigh *anywhere* from 66 to 84.5 pounds. And measurement by dry salt weight is "guesswork," too, for salt may contain from .05% to 5.0% moisture depending upon humidity, length of time in storage, varying bulk and area of the stock pile.

BUT... with the Lixate Process salt measurement is *exact*. Each gallon of Lixate Brine *always* contains *exactly* 2.65 pounds of Sterling Rock Salt. For the Lixator *automatically* makes 100% saturated, crystal-clear, self-filtered brine, that meets the most exacting chemical and bacterial standards. And this brine can be *easily* and *accurately* diluted volumetrically to any desired strength.

Too much salt in the dye bath drives excessive quantities of dye into the fabric causing spotting, streaking and white edges. Too little salt will not properly exhaust the dye. The exact amount of salt is best secured by use of Lixate Brine which always contains exactly 2.65 lbs. of salt per gallon.

Consult our Technical Service Department on your use of salt and brine. The experienced men on this staff will advise you on the proper location for Lixator and salt storage, pumping arrangements, types of pumps, meters, and valves. They will fit the *money-saving* Lixator into your plant operations. Write today!



HOW THE LIXATOR WORKS—*In the dissolution zone*—Flowing through a bed of Sterling Rock Salt which is continuously replenished by gravity feed, water dissolves salt to form 100% saturated brine. *In the filtration zone*—Through use of the self-filtration principle *originated by International*, the saturated brine is thoroughly filtered through a bed of undissolved rock salt. The rock salt itself filters the brine. Nothing else is needed.

NOW AVAILABLE
The New Stainless Steel STERLING* MODEL LIXATOR*
For "Lifetime" Use
For Greater Economy
For Added Cleanliness

*Trade Mark

The LIXATE Process
REG. U. S. PAT. OFF.
for making brine
INTERNATIONAL SALT COMPANY, INC.
Scranton, Pa.

IMPORTANT NEWS!
for users of Aluminum
United States Steel Supply Company
has added aluminum to its line of products
Warehouses of the United States Steel Supply Company are now arranging to carry in stock a complete line of aluminum mill and building products manufactured by the Reynolds Metals Company.
This is further indication of the far-reaching expansion program of United States Steel Supply Company and its desire to satisfy more completely the metal requirements of its customers.
Initially, aluminum mill products — such as structurals, bars and sheets are stocked at the firm's Los Angeles, San Francisco, and Chicago warehouses.
Aluminum building products such as corrugated sheets, siding and other materials are in stock at Newark, Baltimore, Chicago, St. Paul, Milwaukee, St. Louis, Los Angeles and San Francisco warehouses.
Experienced technicians will be at customers' disposal at all times to help with problems involving application or fabrication.
UNITED STATES STEEL SUPPLY COMPANY
USS
STEELS
SERVICE
SYMBOL OF SERVICE

▶ *Contact our nearest warehouse or sales office whenever you need steel--or aluminum*

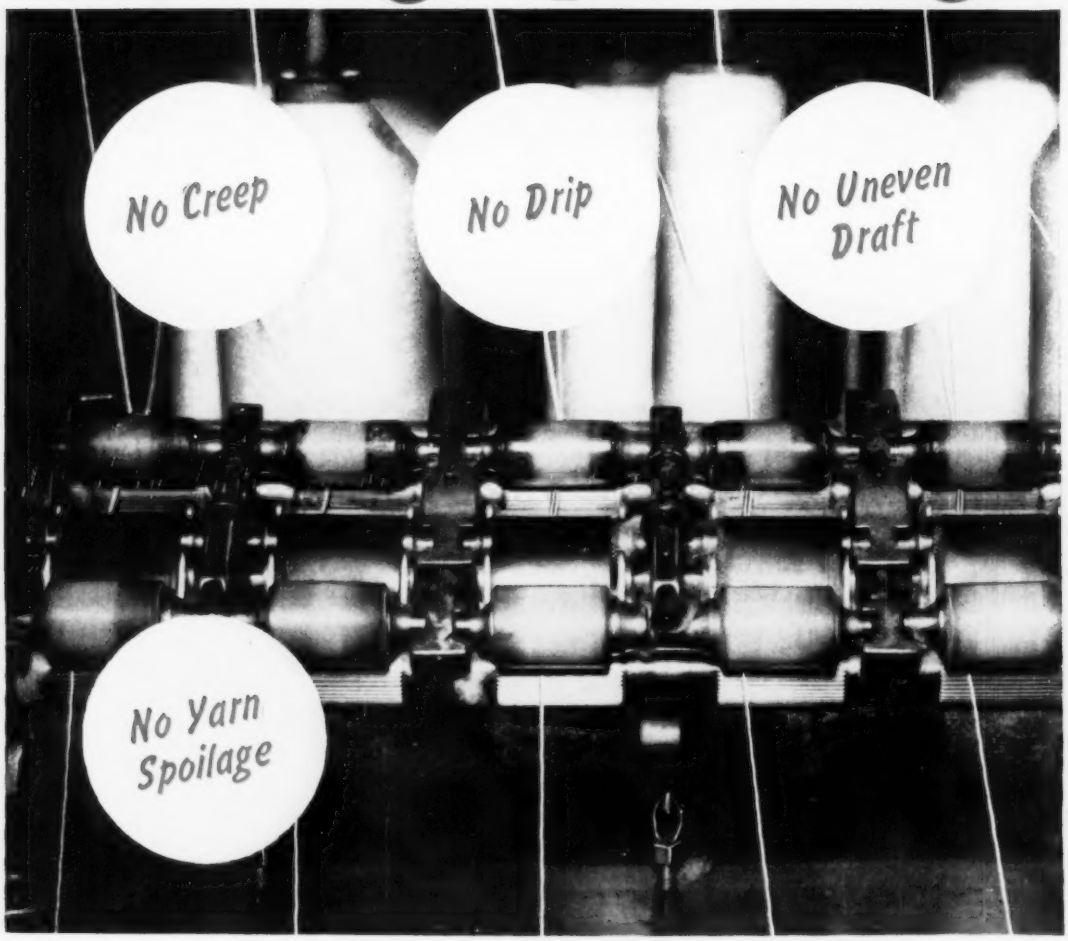
UNITED STATES STEEL SUPPLY COMPANY

USS

Warehouses: BALTIMORE · BOSTON · CHICAGO
CLEVELAND · LOS ANGELES · MILWAUKEE · MOLINE, ILL. · NEWARK · PITTSBURGH
PORTLAND, ORE. · SAN FRANCISCO · SEATTLE · ST. LOUIS · TWIN CITY (ST. PAUL)
Also Sales Offices at: KANSAS CITY, MO. · PHILADELPHIA · TOLEDO · TULSA · YOUNGSTOWN
Headquarters Offices: 208 S. La Salle St.—Chicago 4, Ill.

UNITED STATES STEEL

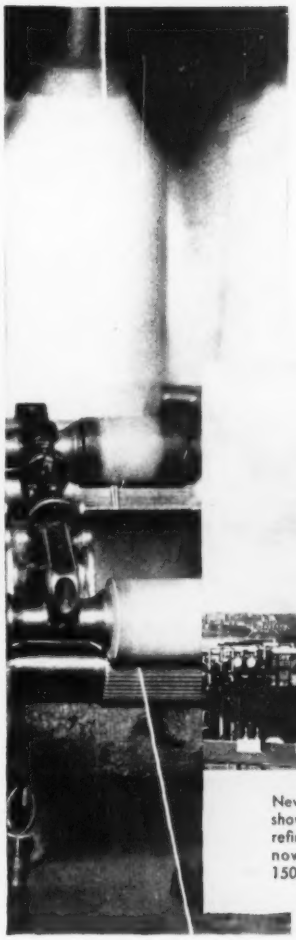
Sinclair NO-DRIP 4 Big Spinning



SINCLAIR

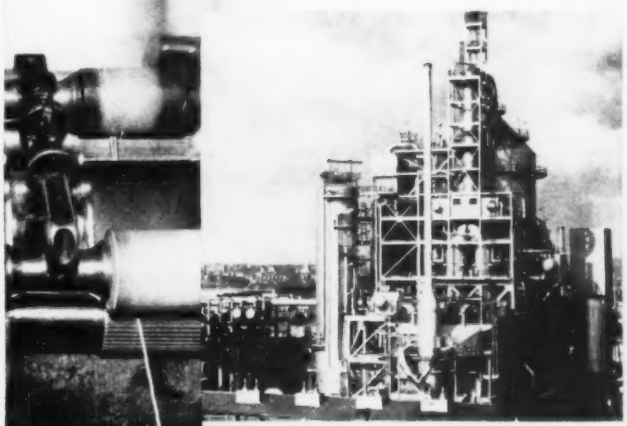
YOUR NEAREST SUPPLIER OF SINCLAIR PRODUCTS WILL GLADLY ARRANGE

LUBRICANT Solves Room Problems



In the spinning room, production may be retarded unless the top rolls are lubricated properly. The problem is to provide adequate lubrication while avoiding creeping of the lubricant or drip onto bottom rolls. A lubricant spreading onto the roll cots will spoil the covering and stain the yarn.

Sinclair NO-DRIP Lubricants have the correct combination of properties to provide desired performance. They reach all the parts where lubrication is needed—*but they do not stray away.*

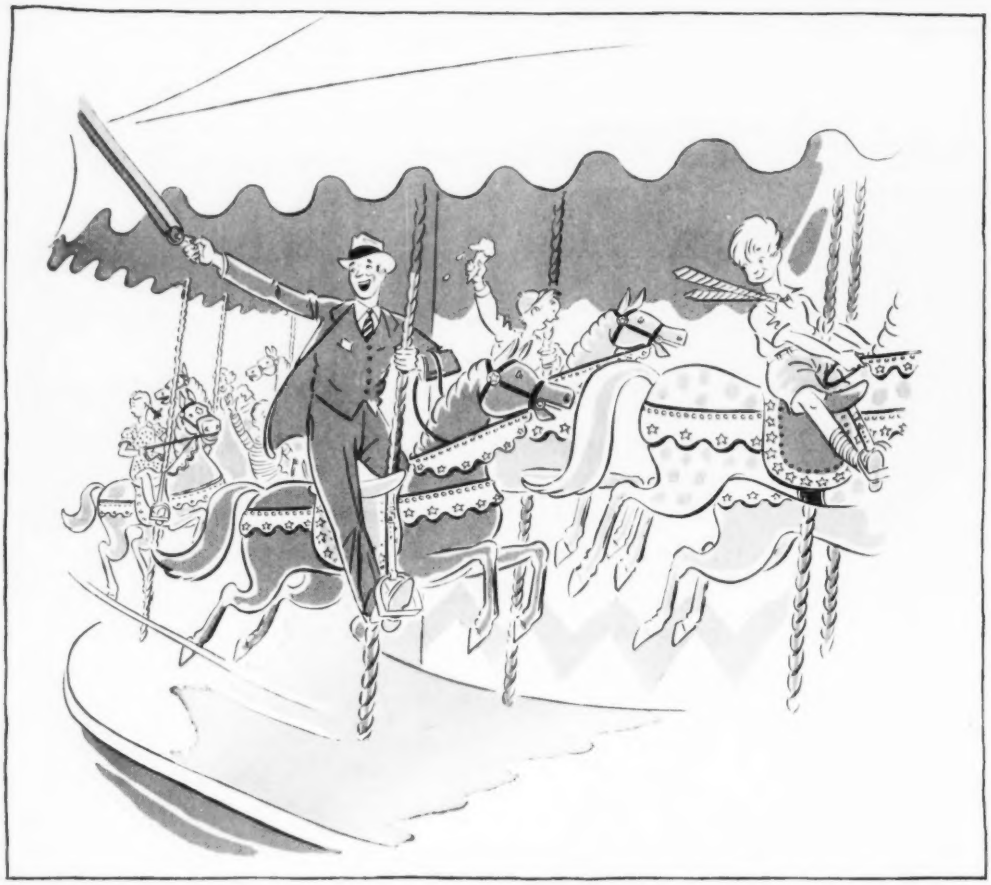


New Fluid Catalytic Cracking Stills (like the one shown here) are helping to expand Sinclair's refinery output. Sinclair's great refineries are now turning out products at the rate of 150,000,000 gallons of lubricating oil yearly.

About 40% of all the Aircraft Engine Oil used by domestic Airlines in the U.S.A. is supplied by SINCLAIR. The same careful research that developed this high quality oil for the Airlines is put into NO-DRIP and other Sinclair Oils.

TEXTILE LUBRICANTS

FOR LUBRICATION COUNSEL, OR YOU MAY WRITE TO SINCLAIR REFINING COMPANY, 630 FIFTH AVE., NEW YORK 20, N. Y.



You Can Really Go Places on this "MERRY-GO-ROUND"!

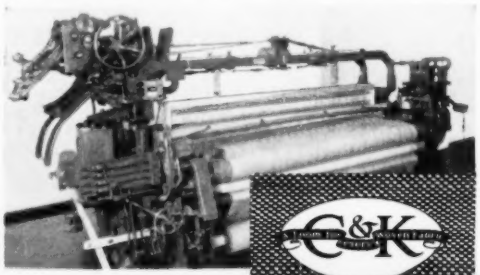
EXTRA VERSATILITY for the new C&K W-3 All-Purpose Looms is made possible by C&K's "Merry-Go-Round" (or tricolor) feature:

This exclusive feature permits automatic bobbin-changing operation on a 4x2 box automatic basis, for weaving 3 colors or kinds of filling, taking 1 pick at a time from each color or class . . . with each of the 3 shuttles picking once in turn.

On the same basis, the new W-3 Loom may be operated to mix 1 color of filling . . . a single pick at a time . . . from 3 shuttles running in rotation . . . for contrasting warp and filling fabrics, or where uneven appearance is hard to avoid.

What's more, this same loom can be quickly and easily converted to a 4x1 box automatic bobbin-changing loom . . . or to a 4x4 box non-automatic loom for pick-and-pick work, where as many as 7 colors of filling may be called at will.

This "Merry-Go-Round" feature . . . plus other exclusive C&K features like the new all-purpose take-up, full automatic letoff, positive shedding, and closer timing . . . give you a range of operating flexibility which you can get from no other weaving machinery. Write for complete details on each of these features.



This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics.

CROMPTON & KNOWLES LOOM WORKS • Worcester 1, Mass.

PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA. • CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

INSIDE YOUR PLANT...OUTSIDE IN YOUR STORAGE YARD

with a Hyster® "20" LIFT TRUCK

THE SAME TRUCK — the rugged, dependable "little" work horse, the HYSTER "20" — operates EQUALLY AS WELL *inside your plant* AS *outside in your* storage yard.

HEAVY DUTY INDUSTRIAL TYPE PNEUMATIC TIRES give the Hyster "20" greatly increased traction, ramp climbing ability, cut down on floor and paving repair and maintenance costs, make higher truck speeds more practical and safer, are easy on the load and driver — EITHER INDOORS or OUTDOORS.

HYSTER "20" HAS GREATER MANEUVERABILITY because of Hyster's patented turning counterweight around the trunnion mounted rear steer wheel; low center of gravity which increases stability; easier steering, rounded rear end.

THE MOVEMENT OF MORE MATERIALS in crowded areas — EITHER INDOORS OR OUTDOORS is done *quickly, efficiently* with the Hyster "20" (2,000-lb. capacity).

CURRENT DELIVERY . . . See your Hyster distributor. Write for literature.

REASONS WHY HYSTER "20" MOVES MORE MATERIALS...

- ✓ Pneumatic tires.
- ✓ Powerful air-cooled gasoline engine.
- ✓ Maximum operator visibility.
- ✓ Load-Grab — For handling many loads without pallets.
- ✓ Special Load-Grab arms available for handling bales, boxes, bundles, bags, barrels, oil drums — without pallets.

Hyster's 7 models range from 2,000-lb. to 30,000-lb. capacity. All are equipped with pneumatic tires.

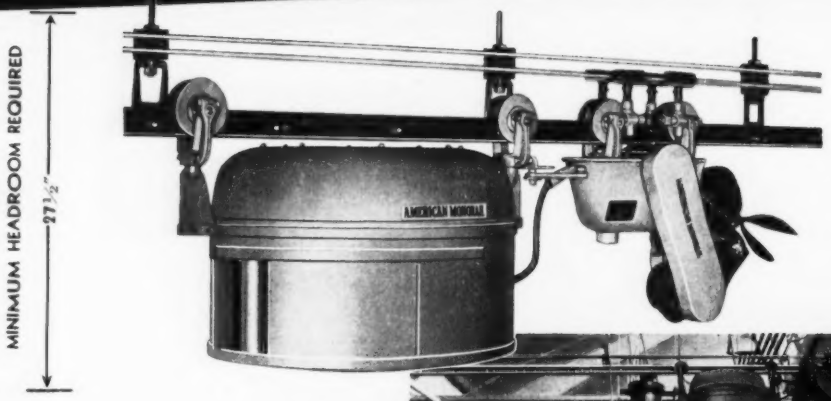
HYSTER COMPANY

THREE FACTORIES

2922 N.E. CLACKAMAS STREET...PORTLAND 8, OREGON
1822 NORTH ADAMS STREET.....PEORIA 1, ILLINOIS
1022 MEYERS STREET.....DANVILLE, ILLINOIS

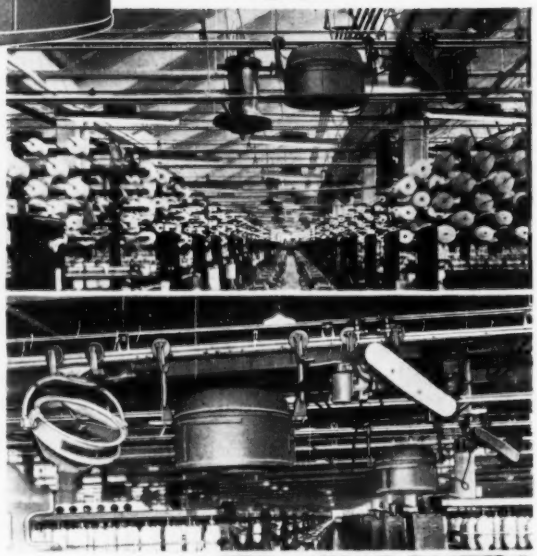
HYSTER

Automatic Cleaning UNDER LOW HEADROOM CONDITIONS

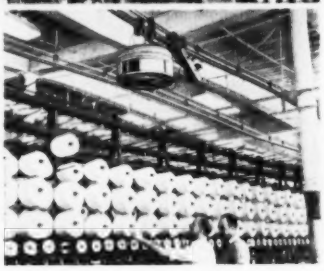


Low ceiling structures, low air ducts, low humidifying lines or any other low headroom condition can easily be met by American MonoRail Automatic Cleaning equipment. To accomplish this, the blower distributor housing is mounted as a trailer to the MonoTractor propulsion unit.

As little as 27½ inch clearance is all that is needed between the top of your twister or spinning frame creels and the ceiling. But don't bother to measure—call in the American MonoRail engineer. He will survey your mill, at no obligation, and give you the benefit of his wide experience in saving time and labor with automatic cleaning systems. It's a date if you'll write.



Send for copy of 24 page Bulletin CB-3 explaining arrangement for meeting low headroom conditions.



THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE CLEVELAND 7, OHIO

for 15 years { . . . JOHNSON JOINTS have been furnished on Morrison textile machines

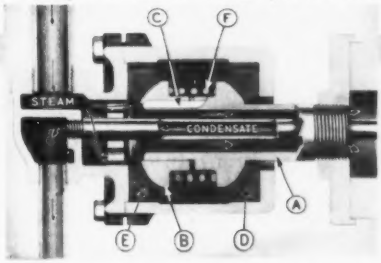
The set of dry cans pictured at right is one of the latest models of the Morrison Machine Co., of Paterson, N. J. In keeping with its up-to-the-minute chain drive design, it is equipped completely with Johnson Rotary Pressure Joints.

Morrison is noted for being among the first to reflect new advances in textile machinery. It is significant that they were so quick to recognize the merits of Johnson Joints. It was early in 1934 that Morrison first ordered Johnson Joints to be furnished as standard equipment.

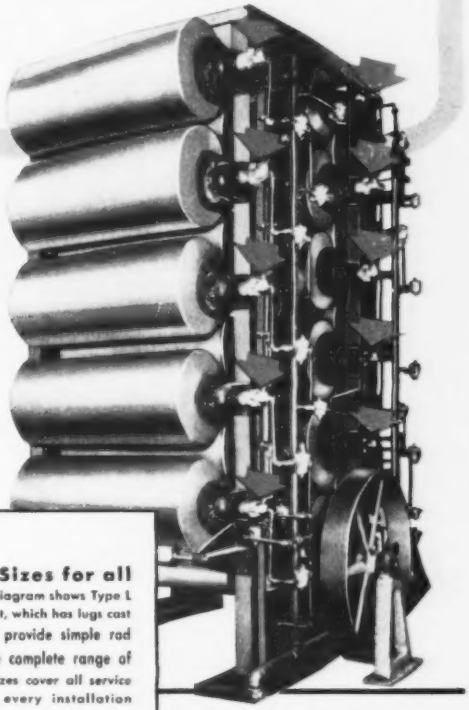
Manufacturers like Morrison Machine Co., and the many others who have followed suit, cannot afford to guess wrong on such components. Their wholehearted adoption, and increasing use, of Johnson Joints is a clear indication of the unmatched savings and benefits you can expect.

Briefly the facts are these. The cost of switching over comes back quickly from savings in maintenance alone; the Johnson Joint is completely packless, asks no oiling or adjusting, is even self-aligning. And all the while it materially boosts production by ending so many causes of machine shut-down and by facilitating more efficient methods of syphon drainage.

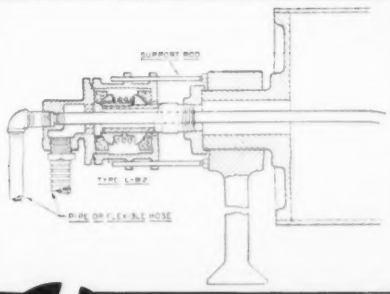
Write for literature today; get all the facts



JOHNSON ROTARY PRESSURE JOINT — Nipple (A) is connected to roll or drum. Sliding collar (B) is keyed to nipple at (C), but slides loosely over it so pressure can fill entire housing. This pressure becomes the sealing force, presses seal ring (D) tightly against nipple. Both seal ring and bearing ring (E) are of special carbon-graphite, which eliminates oiling and packing. Spring (F) is for initial seating only.



For large Slashers and Double Drum Dryers learn about the Johnson Speed-Heat System, which brings faster heating, hotter cylinders, job-proved increases in slasher speed of as much as 25%.



Types, Sizes for all needs — Diagram shows Type L Johnson Joint, which has lugs cast on body to provide simple rod support. The complete range of types and sizes cover all service conditions, every installation requirement.

Product of The Johnson Corporation

The Johnson Corporation, 814 Wood St., Three Rivers, Mich.

ROTARY PRESSURE JOINTS • COMPRESSED AIR SEPARATORS AND AFTERCOOLERS
DIRECT OPERATED SOLENOID VALVES • "INSTANT" STEAM WATER HEATER

Don't

"SPARE THE WIND AND SPOIL THE TWIST"

Successful ply yarn manufacture is the result of many factors, not the least of which is efficient doubling. Foster Model 57 Doublers fit right into the better twisting picture. They combine every possible feature that has been shown desirable in preparing yarns for twisting.

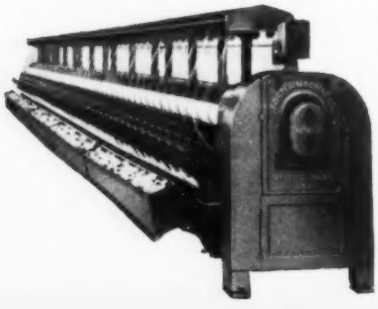
Foster Model 57 can be set up for one process doubling, drawing direct from bobbins. For this operation it is equipped with a tension and slub catching device for automatic inspection and uniform tension on multiple ends. Model 57 can also be equipped for the two process system, drawing from cones which have been wound and inspected on the Foster Model 102.

Exceptionally high speeds are possible without loss of quality. Machine can be equipped to wind 6" or 7" traverse tubes.

Take advantage of this company's more than 50 years of experience in designing and building yarn winding and doubling equipment. Investigate the Foster Model 57 Doubler. Write for Circular A-90.

BETTER *TWIST* BY DOUBLING ON

FOSTER *Model* 57



Additional features of Model 57:

NO SHARP BENDS IN THREAD LINE
Minimum yarn strain

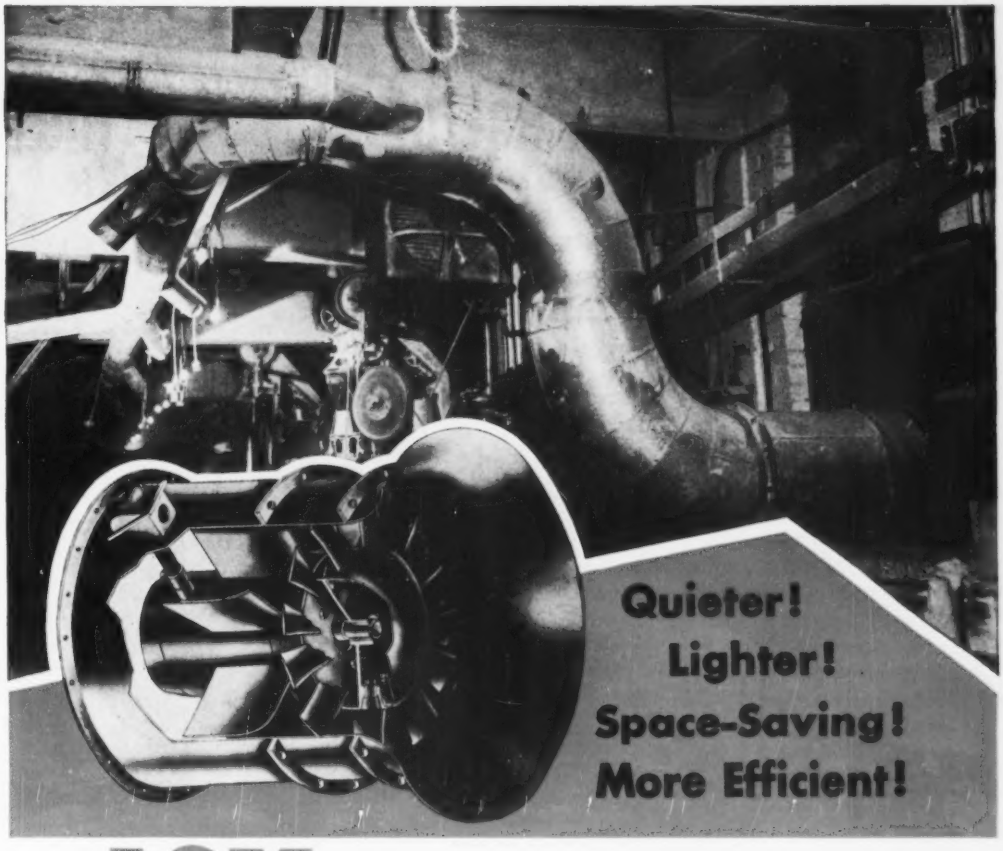
NO JUMPING OFF DOUBLING ROLL
Threading guard on roll

QUICK ACTING STOP MOTION
Enough yarn left for single end piecing

INDIVIDUAL SLUB CATCHER SETTINGS, IF DESIRED
Permits doubling of coarse and fine yarns side by side

FOSTER MACHINE CO.
WESTFIELD, MASS.

Southern Office: Johnston Bldg., Charlotte, N. C. • Canadian Representative: Ross Whitehead & Company Limited, University Tower Building, 660 Ste. Catherine Street West, Montreal • European Representative: Muschamp Taylor Limited, Manchester, England



JOY AXIVANE* FANS

(SERIES 1000)

Write for Bulletin, or

Consult a Joy Engineer

The quieter operation, lighter, more compact design, lower power consumption and unmatched efficiency of JOY Axivane Fans are *real* advantages! What's more, their vaneaxial design and in-line construction permit mounting right in the air duct, making installation simple and saving greatly on time and cost. These features—plus the extreme flexibility of operating range made possible by adjustable blades, *exclusive* with JOY Fans—mean better, more dependable and lower-cost ventilation, no matter what your conditions are.

● Let JOY Axivane Fan specialists work with you for best results on your ventilation jobs.

*Reg. U. S. Pat. Off.

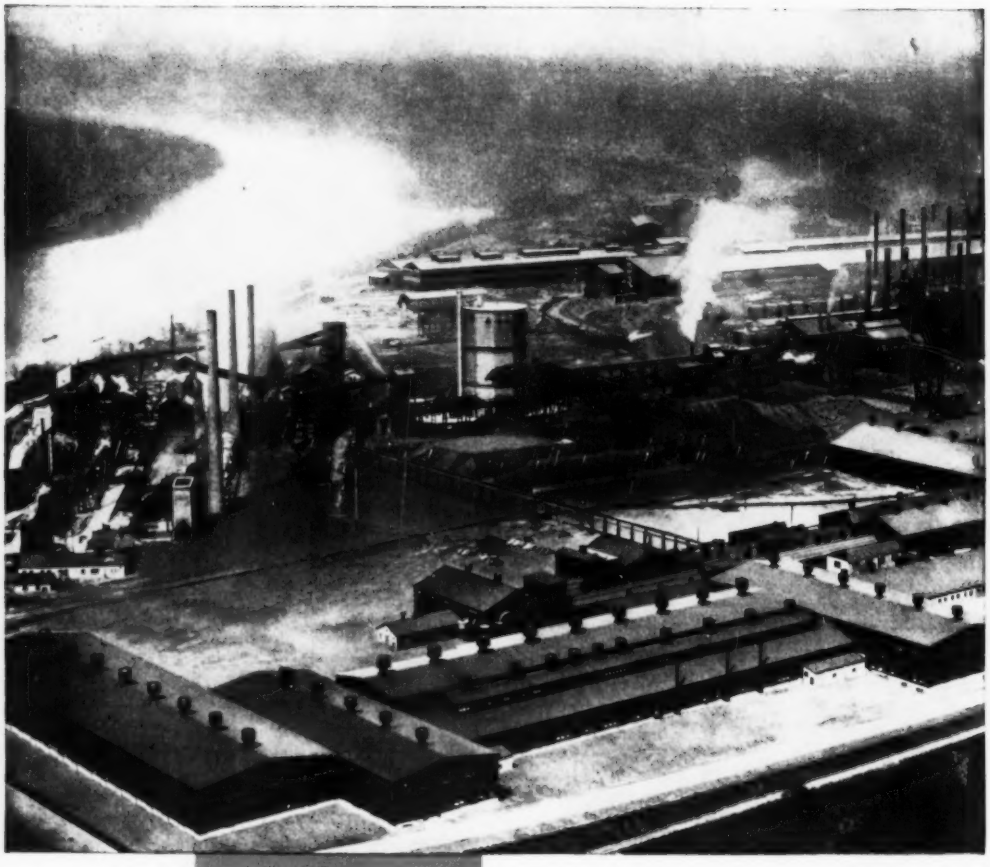
WAD 12355

JOY MANUFACTURING COMPANY

GENERAL OFFICES: HENRY W. OLIVER BUILDING · PITTSBURGH 22, PA.

IN CANADA: JOY MANUFACTURING COMPANY (CANADA) LIMITED, GALT, ONTARIO

$18,000,000 set of tools for the



CRUCIBLE first name in special purpose steels

hot and cold rolled **STAINLESS SHEET AND STRIP**

MASTER mechanic

When a *master* mechanic gets new tools, expect master workmanship. And when CRUCIBLE, *master* producer of tool, alloy and specialty steels, designs an $18,000,000 mill specifically for hot and cold rolled stainless sheet and strip, you can rightly expect the best that modern facilities and generations of *specialty product* leadership can provide.

For here, at CRUCIBLE'S new Midland Mill, is an entirely new concept in stainless sheet and strip production . . . here, for the first time, stainless sheet and strip are made as *specialty products*, by specialty production methods, in a mill built from the ground up for this purpose. Here at Midland are no mills designed for carbon steel production, re-powered for the heavier duty of rolling stainless, but $18,000,000 worth of *brand new* equipment, designed and built for *modern* hot and cold rolling of stainless steel — in widths from ½" to 50" inclusive, and in all gauges, grades and finishes.

This is important news to every designer and fabricator of stainless steel products. For CRUCIBLE, pioneer in stainless steel since its inception, now offers *a completely integrated* line—sheet, strip, plates, bars, tubing, wire, forgings and castings.

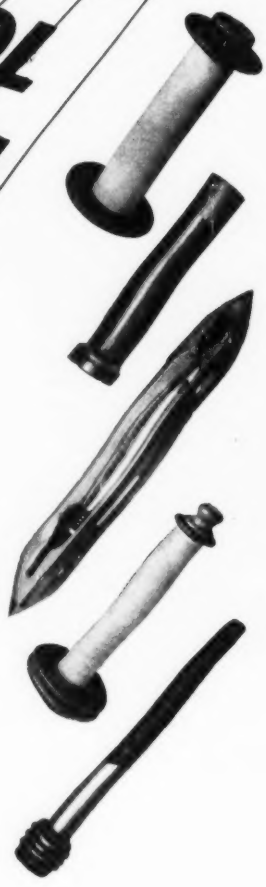
In short, you can turn with every confidence to the *first* name in special purpose steels for *every* form of stainless. One of the largest and most highly specialized technical forces in the steel industry is at your service for specific application advice. And there are comprehensive data sheets available for all grades. Your inquiry will be welcomed.

CRUCIBLE STEEL COMPANY OF AMERICA, Chrysler Building, 405 Lexington Ave., New York 17, N.Y.
Branches, Warehouses, and Distributors in Principal Cities. Consult your Telephone Directory or Thomas' Register for Nearest Office.
HIGH SPEED • TOOL • STAINLESS • ALLOY • MACHINERY • SPECIAL PURPOSE STEEL

MANY PROCESSES . . .
ONE AUTHORITY . . .

US PRODUCTS FOR

SILK
WOOL
COTTON
RAYON
AND ALL OTHER
SYNTHETICS



In the processing of any material, the efficiency of every item of your mill equipment counts heavily in keeping costs competitive and making profits certain.

To assure this, modern mill management checks regularly with U S and keeps abreast of every development that helps speed production while achieving manufacturing economies through improved equipment design.

U S has the basic advantage of close control of its raw materials for every piece of equipment manufactured. U S further provides the most modern manufacturing facilities so that every designed item actually meets the closest possible tolerances in all tests for dimension, weight and balance.

But U S emphasizes to you that every detail of this selection, design and manufacture is aimed at improved performance for your mill in better, faster production and in savings of time and labor that mean lower costs.

FOUR REASONS WHY IT PAYS TO CONSULT U S

Controlled Raw Materials: Extensive U S owned timber properties, including fine northern hardwood stands, allow close control of raw material selection and processing from the source.

Ample Plant Capacity: Three manufacturing plants in North and South locations closely keyed to textile production areas, are fully equipped to handle any size orders.

Precision Standards: U S has cooperated with textile machinery manufacturers for nearly a century—and can meet the closest possible tolerance tests for dimension, weight and balance.

Mill-Wise Representatives: U S representatives cover every field of textile production and can offer thoroughly experienced advice on the use of U S products in any process.

US BOBBIN & SHUTTLE CO.

PROVIDENCE, R. I.
GREENVILLE, S. C.
CHICAGO REPRESENTATIVE: Albert R. Breen, 80 E. Jackson Blvd.

LAWRENCE, MASS.
PHILADELPHIA, PA.
CANADIAN REPRESENTATIVE: W. J. Westaway Montreal, Que. — Hamilton, Ont.

JOHNSON CITY, TENN.
CHARLOTTE, N. C.
ALABAMA REPRESENTATIVE: Young & Van Supply Co. Birmingham

DESIGNED TO CATCH A WOMAN'S EYE!

Across the sales counter, it's women who buy textiles. When you package for women, the important things to remember are color, style, convenience, design. Because the package that attracts women is the package that sells.

Let our Textile Packaging Laboratory help you add selling power to your packages. We study the psychology of women at the point of purchase—survey your packaging and distribution methods—and recommend the specific package most suited to your own product, most economical for your needs, most attractive to the consumer. Container Corporation's long experience and leadership in package development are at your service.

CONTAINER CORPORATION OF AMERICA

TEXTILE PACKAGING LABORATORY, PHILADELPHIA

L. F. Dommerich & Company

Executive and General Offices

271 MADISON AVENUE
NEW YORK 16, N. Y.

Telephone: Murray Hill 3-8650

FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

●

ESTABLISHED 1840

A modern mill installation of new Whitin Model "E" Wool Spinning Frames.

WHITIN Wool Spinning Frames

Pay Big Dividends

Not for 1 Year - Not for 2 Years

. . . but YEAR AFTER YEAR

Many dividends to be derived from an installation of Whitin Model "E" large package wool spinning frames are obvious and accepted. Production is greater; yarn quality is better, with greater evenness and strength, bringing related savings in subsequent operations. These benefits are well known.

There is another dividend — an important one, too — which is often overlooked. It is the *long life* and *low maintenance cost* of Whitin installations. We feel that an important customer of ours has covered this very well in a recent letter describing a modernization program he recently completed involving the moving of a number of our frames. We are permitted to quote as follows:

"They, of course, had to be completely dismantled with the exception of the heads, and re-erected. Now it should be pointed out that these frames had been running about four years on a three-shift, 7 days a week operation, namely 168 hours, which is the equivalent of approximately 17 years on a single shift, 40 hour basis.

To our complete surprise, not a single bearing, shaft, gear or roll had been impaired in the slightest. We even went so far as to examine the bottom bearings on the spindles and bolsters themselves. The frames had been operating on high twist yarn with a spindle speed of approximately 4900 turns per minute. After a continuous run of four years, with no shutdown whatsoever, we thought the condition of the machines was remarkable."

This is not an isolated case. Mill after mill has collected comparable dividends.

Write Today for descriptive literature on *Whitin* Model "E" Wool Spinning Frames

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA.

STOP "counting sheep" worrying about the cost of wool scouring! With Taylor Automatic Temperature and Dumping Control you'll recover 50 to 100% more lanolin, cut caustic consumption 25%, and use much less water. Furthermore, the quality of scouring is consistently better and more uniform. Here you see the system we installed on the scouring range (supplied by C. G. Sargent's Sons Corp.) at the Ames Worsted Company's Walsh Mill, Lowell, Mass.

All bowls in the range are temperature controlled by dependable 86-R Fulscope Controllers. The first and second bowls have automatic dumping of sediment by Taylor Flex-O-Timer* Time Cycle Controllers. Here's how it works:

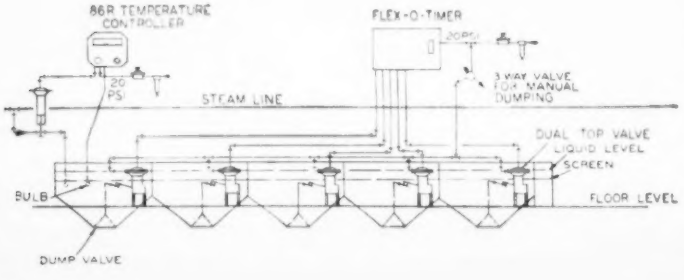
1. Each of the first two bowls has each of its hoppers dumped in a precise sequence. The Flex-O-Timer pneumatically operates a lever motor to open a gate valve in the hopper bottom just long enough to flush the sediment but with minimum loss of water and chemicals.

2. The dumping period and the interval between dumpings is fully adjustable to meet all scouring requirements.

Without this automatic dumping control, someone would have to manually flush each hopper by operating the gate valve. If he held the valve open too short a time, he wouldn't get rid of all the dirt. Too long a time and he'd lose an excessive amount of water or expensive chemicals. Automatic control of both scouring temperature and dumping frees the operator of these great responsibilities; assures consistently high quality scouring; and at the same time effects substantial dollars-and-cents savings in lanolin recovery, chemicals and water.

A dozen or more companies are now successfully using Taylor Automatic Wool Scouring Control. Names on request. Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada. *Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*

* Registered Trade-Mark



QUICK FACTS FOR ENGINEERS

Here's an example of how the Taylor Flex-O-Timer, in conjunction with automatic temperature control, is relieving scouring train operators of responsibility for top quality in one plant—and keeping costs down in the bargain:

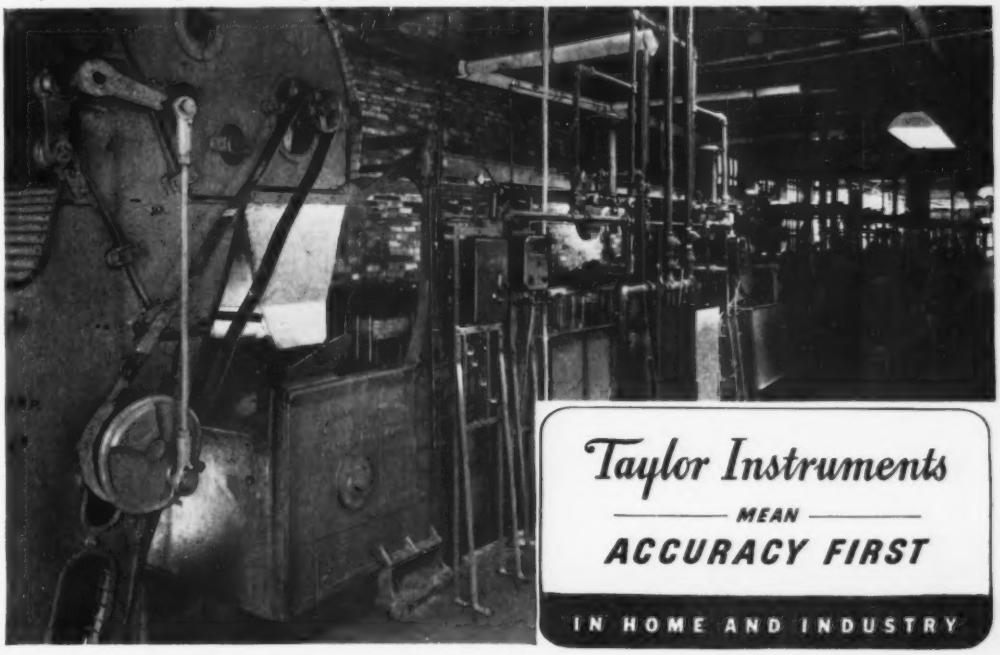
1. First bowl: Flex-O-Timer opens gate valve for 2 seconds every 15 minutes, each hopper being staggered.

2. Second bowl: Flex-O-Timer opens gate valve for $1\frac{1}{2}$ seconds every 30 minutes, each hopper being staggered.

NOTE: Complete adjustability of timer lets you easily change both sequence and duration of dumping to meet your specific scouring requirements.

...with Taylor Automatic Wool Scouring Control!

Taylor Automatic Temperature and Dumping Controls on wool scouring range at the Ames Worsted Company's Walsh Mill, Lowell, Mass.



Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY

There's no better foundation made than TUFFER CYLINDER CLOTH

Tuffer Cylinder Cloth is made of four layers of carefully selected and specially constructed cloths which are produced exclusively for Howard Brothers.

Howard Brothers expert craftsmen—men with KNOW HOW that comes with long, practical experience—laminate these cloths together with a special oilproof glue. As a result, Tuffer Cylinder Cloth is strong and stretch-controlled, yet pliable enough to go on the cylinders easily . . . flexible enough to absorb the constant working by the stock being carded.

Tuffer Cylinder Cloth is factory-tested to withstand 4 *times* the strain it takes on your machines. It has a higher tensile strength (by test) than any similar foundation on the market. This combination supplies the backbone that is so much appreciated in cardrooms everywhere. A careful examination and comparison will convince you of its superiorities.

The U.S. Patent Office has granted patent No. 1,773,783, making us the sole manufacturers of this foundation.

Write to any Howard Bros. plant or office for complete information.

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C.

Branches: Philadelphia, Pa. and Blanco, Texas *Direct Representation in Canada* A-7

TUFFER CARD CLOTHING

IMPROVES PRODUCTION ALL ALONG THE LINE

CORROSION COSTS

$6,000,000,000.00

ANNUALLY!

No industry escapes ... how much do you pay?

Don't risk needless waste

Corrosion damage is bound to occur. The problem is to provide adequate protection. Conventional coatings often fail when attacked by acids, alkalis, salts, gases and atmospheric conditions. As a result, every industry pays a terrific bill—far more than it should. Your own costs, too, may be larger than necessary. Minimize your risk—do these two things now—

1 — Check up on your costs;

2 — Provide adequate protection for danger points.

Experienced and competent Amercoat engineers are available to help you on both. They'll check up on your costs, which may be greater than you know because the effects of corrosion are often hidden. They'll report on conditions as they find them. They'll recommend steps to take if greater protection can be provided and money saved. Inquiries from interested executives will receive prompt attention. There's no obligation—write today.

AMERCOAT DIVISION
AMERICAN PIPE AND CONSTRUCTION CO.
Dept. 27, 4809 Firestone Blvd.,
South Gate, California

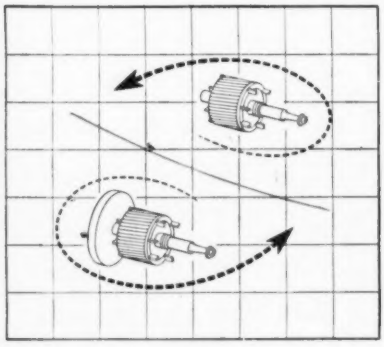
FOLLOW THE LINE OF *most* RESISTANCE

EXAMPLE OF AVOIDABLE LOSS—The coating on this tank broke down under atmospheric conditions because it was not designed to do a protective job—result, useful life of unit greatly reduced and costly replacement necessary.

A SYSTEM OF SURFACE PROTECTION

we've added

...to give you a motor that does more work and makes loom "feel" better!



FLYWHEEL EFFECT
This chart shows how the addition of flywheel effect in a loom motor reduces power lost through motor heating.

Today, the General Electric totally enclosed loom motor is better than ever! For, where the loom needs it, you can specify a *standard* G-E loom motor with an integrally-mounted flywheel at very little extra cost! You get these important advantages:

LESS POWER USED – By increasing the flywheel effect in the motor, power losses caused by pulsating loom loads are reduced materially.

MORE SHAFT OUTPUT – Generally speaking, a flywheel motor can be one rating smaller (or allow increased loom speed) and still do a satisfactory job.

LOWER MOTOR SPEED – You can reduce the speed of your motors from 1800 rpm to 1200 rpm and thus take advantage of the inherent merits of the lower speed motor.

BETTER PERFORMANCE ON YOUR LOOMS! Loom fixers report that G-E flywheel motors actually *improve* loom performance. The loom "feel" is better and there is less variation in motor speed throughout the operating cycle.

NEW BEARINGS, TOO!

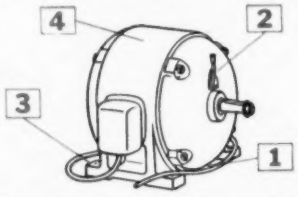
The bearings on a General Electric loom motor are bronze, backed with a bonded outer shell of steel. This means your loom motor is better able to stand up to the shocks imposed by the typical loom operating cycle. This bearing construction is better because—

FIRST, it retains a tighter fit in the end shield without taking a permanent set.

SECOND, it is better finished, making possible a more uniform oil film, and thus, greater load capacity.

THIRD, it has been designed to make the end shield, rather than the bearing sleeve, absorb punishing shaft thrust.

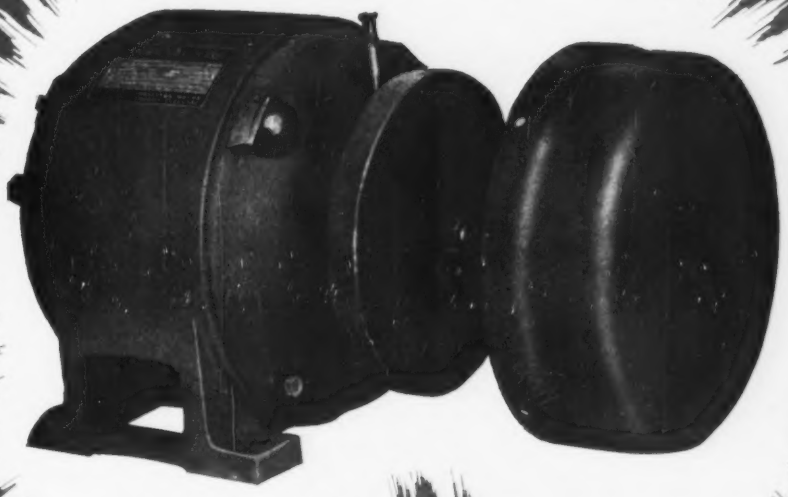
More Convenience Features!



1. G-E loom motors are furnished with a terminal box and Flamenol ® multiconductor cable containing ground wires in accordance with Associated Factory Mutual Fire Insurance Companies' recommendations. No conduit is required with this arrangement but the terminal box can accommodate conduit wiring when used.
2. Oil fittings are located on top where they are easily accessible for filling.
3. Footholes are drilled for heavy mounting bolts.
4. Handhole between feet makes mounting easy.

GENERAL ELECTRIC

a flywheel!



TOTALLY ENCLOSED
LOOM MOTORS
Cast-iron for long life!

General Electric Co., Section C654-1
Apparatus Dept., Schenectady 5, N. Y.

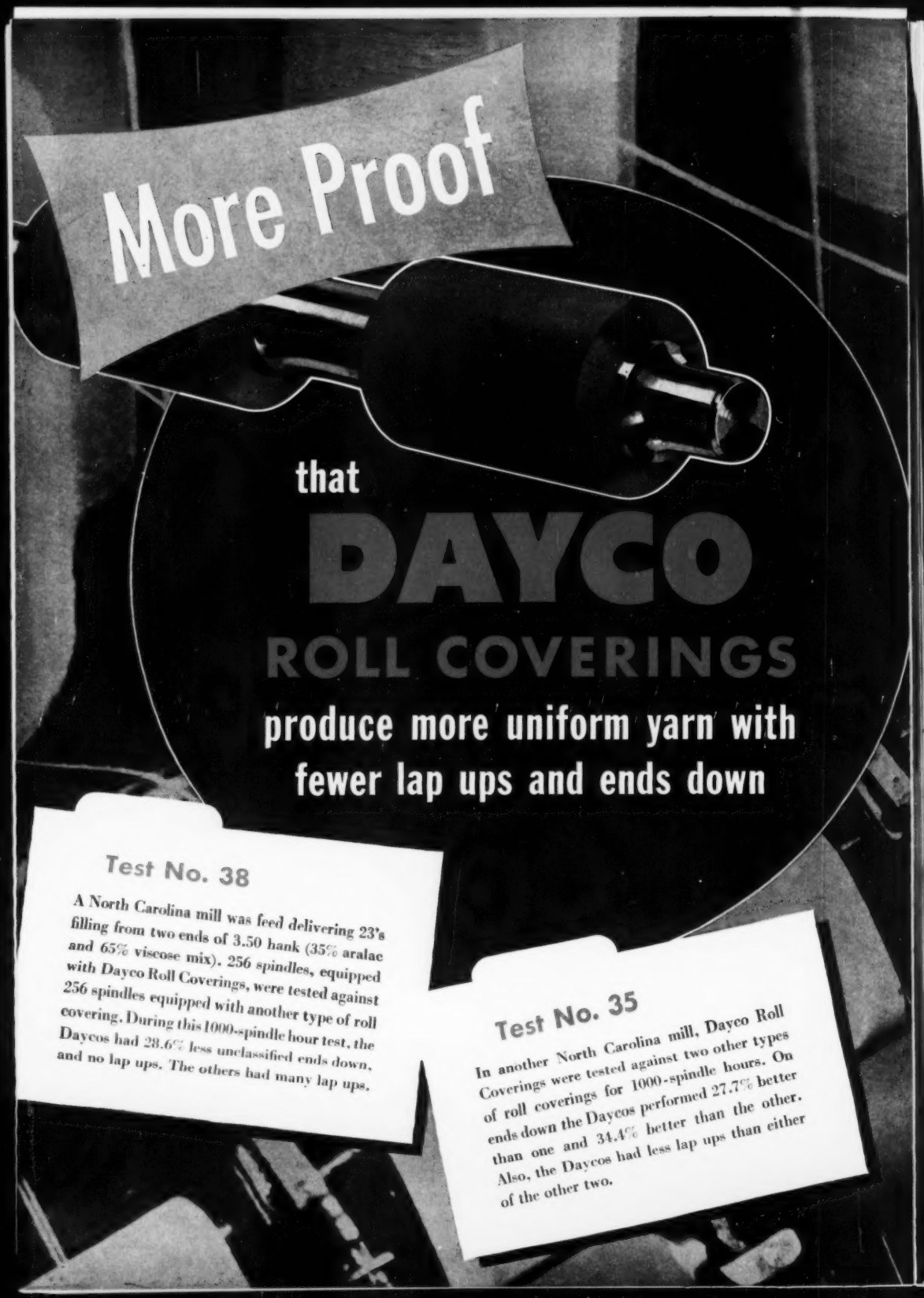
Please send me without obligation a copy of your Bulletin GEA-5011B which describes the G-E totally enclosed 40C rise loom motor — both standard and flywheel types.

Name _____

Company _____

Address _____

City _____ State _____


More Proof
that
DAYCO
ROLL COVERINGS
produce more uniform yarn with
fewer lap ups and ends down
Test No. 38
A North Carolina mill was feed delivering 23's filling from two ends of 3.50 hank (35% aralac and 65% viscose mix). 256 spindles, equipped with Dayco Roll Coverings, were tested against 256 spindles equipped with another type of roll covering. During this 1000-spindle hour test, the Daycos had 28.6% less unclassified ends down, and no lap ups. The others had many lap ups.
Test No. 35
In another North Carolina mill, Dayco Roll Coverings were tested against two other types of roll coverings for 1000-spindle hours. On ends down the Daycos performed 27.7% better than one and 34.4% better than the other. Also, the Daycos had less lap ups than either of the other two.

. . . and they're ESPECIALLY ENGINEERED FOR LONG LIFE!

Thru Dayco textile know-how, Dayco Roll Coverings are created to perform better . . . last longer. The surface is made of special synthetic rubber—man-made and controlled for this specific job. Daycos always have exactly the right coefficient of friction and built-in cushion to give you more uniform yarn. Special types for revolving and flat clearers.

8 MORE REASONS WHY YOU SHOULD USE DAYCOS

1. Reduce number of ends down. Minimize lapping up.
2. Equally efficient for natural and synthetic fibers.
3. Permit changing yarn numbers without rebuffing.
4. Oilproof. Won't swell.
5. Static free. Reduce eyebrowing.
6. Not affected by humidity or temperature changes.
7. No grooving. Long life.
8. Easy to apply. One-piece tubular construction.

DAYCO LONG DRAFT APRONS

More uniform yarn with cotton, wool or synthetic fibers is the big reason more mills are changing to Dayco Long Draft Aprons. These Daycos won't stretch, groove, split, crack, break or curl. They won't flip off or pick up lint. Nondirectional, their white drafting surface helps keep yarn clean. *The Dayton Rubber Company, Textile Division, Woodside Building, Greenville, South Carolina.*

MORE DAYCO SPINNING ROOM PRODUCTS

Woolen and Worsted Cots. More uniform spinning, less matching-up. Give years of service.

Slasher Rolls. Insure more uniform sizing. Last longer. Not affected by starch.

Rub Aprons. Last longer. Stay put. Insure more uniform rubbing.

Condenser Tape. No stretch. Won't pick up lint. Less tendency to twist.

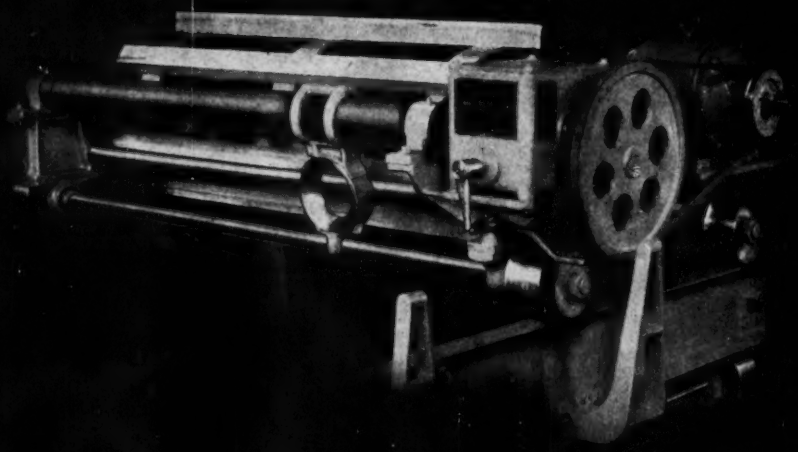
Sponge Cone Pads. Extra resiliency protects yarn.

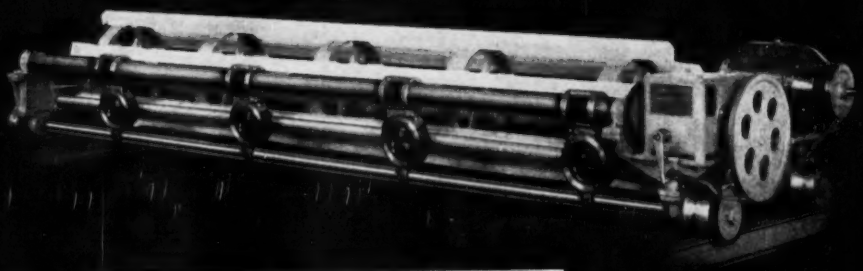
Dayco also makes:
Vibration dampeners. Friction driving discs. Roll coverings for drawing and roving frames. Drafting mechanisms, including cotton, wool, glass, jute, cut staple, hair and other fibers.

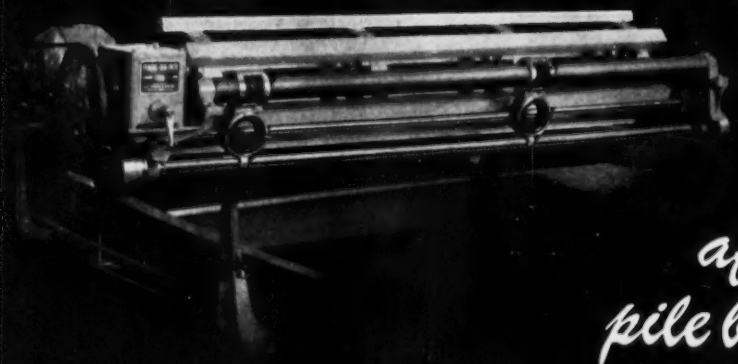
Dayton Rubber

PERKINS AUTOMATIC BIN PILERS

PATENTED





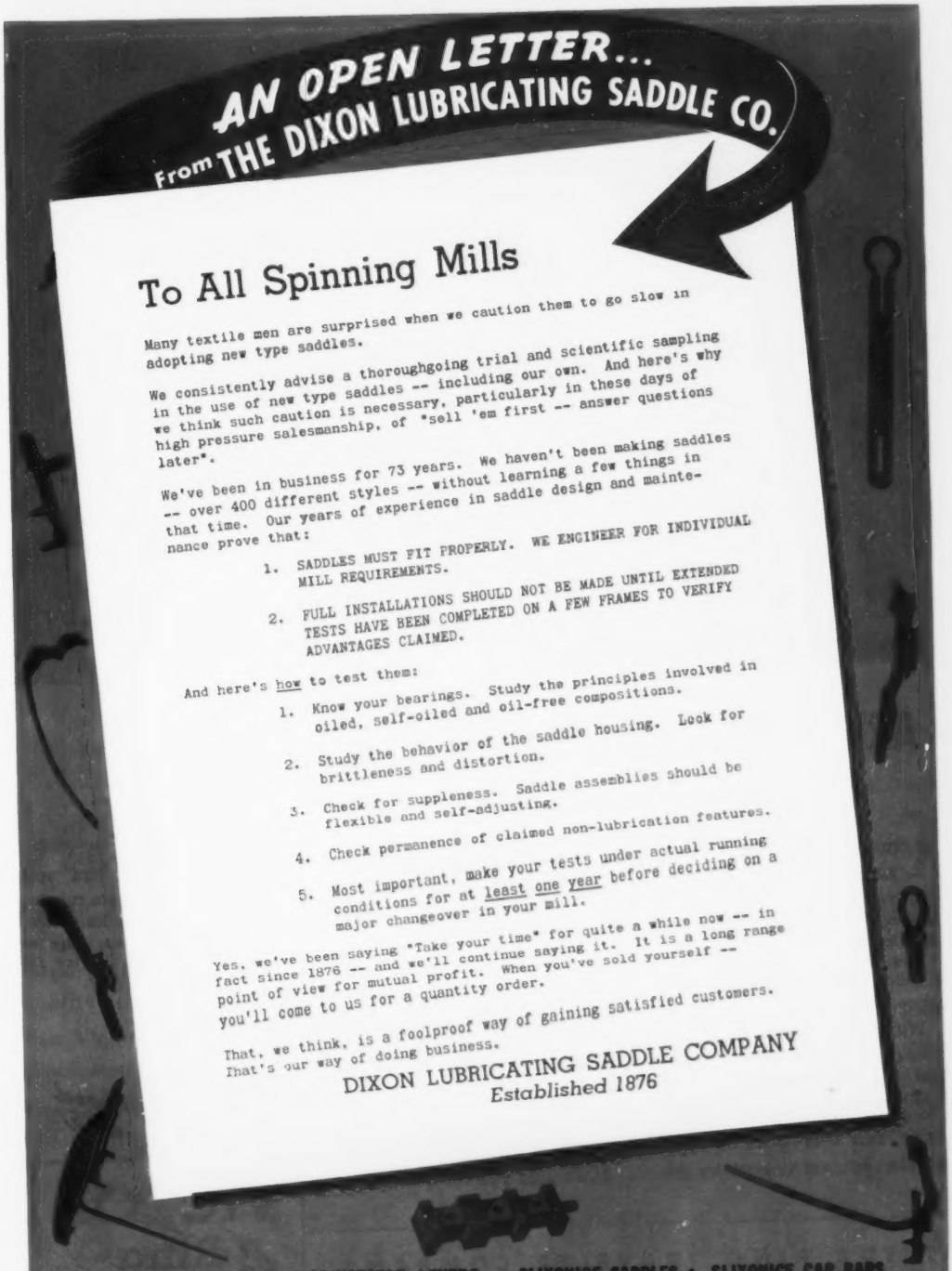


You cannot afford to pile by hand

B. F. PERKINS & SON, INC.

ENGINEERS AND MANUFACTURERS

HOLYOKE • • • MASSACHUSETTS


AN OPEN LETTER...
From THE DIXON LUBRICATING SADDLE CO.
To All Spinning Mills
Many textile men are surprised when we caution them to go slow in adopting new type saddles.
We consistently advise a thoroughgoing trial and scientific sampling in the use of new type saddles -- including our own. And here's why we think such caution is necessary, particularly in these days of high pressure salesmanship, of "sell 'em first -- answer questions later".
We've been in business for 73 years. We haven't been making saddles -- over 400 different styles -- without learning a few things in that time. Our years of experience in saddle design and maintenance prove that:
1. SADDLES MUST FIT PROPERLY. WE ENGINEER FOR INDIVIDUAL MILL REQUIREMENTS.
2. FULL INSTALLATIONS SHOULD NOT BE MADE UNTIL EXTENDED TESTS HAVE BEEN COMPLETED ON A FEW FRAMES TO VERIFY ADVANTAGES CLAIMED.
And here's how to test them:
1. Know your bearings. Study the principles involved in oiled, self-oiled and oil-free compositions.
2. Study the behavior of the saddle housing. Look for brittleness and distortion.
3. Check for suppleness. Saddle assemblies should be flexible and self-adjusting.
4. Check permanence of claimed non-lubrication features.
5. Most important, make your tests under actual running conditions for at least one year before deciding on a major changeover in your mill.
Yes, we've been saying "Take your time" for quite a while now -- in fact since 1876 -- and we'll continue saying it. It is a long range point of view for mutual profit. When you've sold yourself -- you'll come to us for a quantity order.
That, we think, is a foolproof way of gaining satisfied customers. That's our way of doing business.
DIXON LUBRICATING SADDLE COMPANY
Established 1876
LUBRICATING SADDLES • ADJUSTABLE LEVERS • SLIXONICE SADDLES • SLIXONICE CAP BARS
LEVER SCREWS • LUBRONZE BEARINGS • SLIPWOOD BEARINGS • LOCKING STIRRUPS
BRISTOL, RHODE ISLAND, U.S.A.

The two large bronze travelers illustrated actual size each weigh 600 grains and are used for twisting sash cord and heavy twine. No. 12 and No. 16 bronze twister travelers are shown for comparison. These "heavy weights" are the biggest in Victor's line of some 15,000 sizes and styles for every spinning and twisting need.

ARE TRAVELERS THE *Biggest* THINGS

in your yarn production setup?

ACTUALLY, they are about the smallest piece of equipment you use in fiber processing. But they can be one of the biggest, in point of time and production lost, if you choose the wrong traveler. A little traveler can become your biggest headache.

With the new interest in worsted yarns prepared on the cotton system, and with so many new synthetics and blends coming up for processing, it is more difficult today than ever to be sure the traveler you use is right for the job. Experience with conventional fibers helps. But, to save precious time in setting up smooth-running spinning and twisting, you need up-to-the-minute information.

You can get that kind of information from a man whose job it is to keep abreast of every new development. The Victor Service Engineer is fully prepared to help you keep out of traveler trouble, and, more than that, help you raise production and quality, often well above what you expected.

Make sure you are getting the most and the best from your frames, whether you are running blends, straight synthetics, or conventional fibers. Write, wire or phone, and a Victor Service Engineer will call promptly.

★

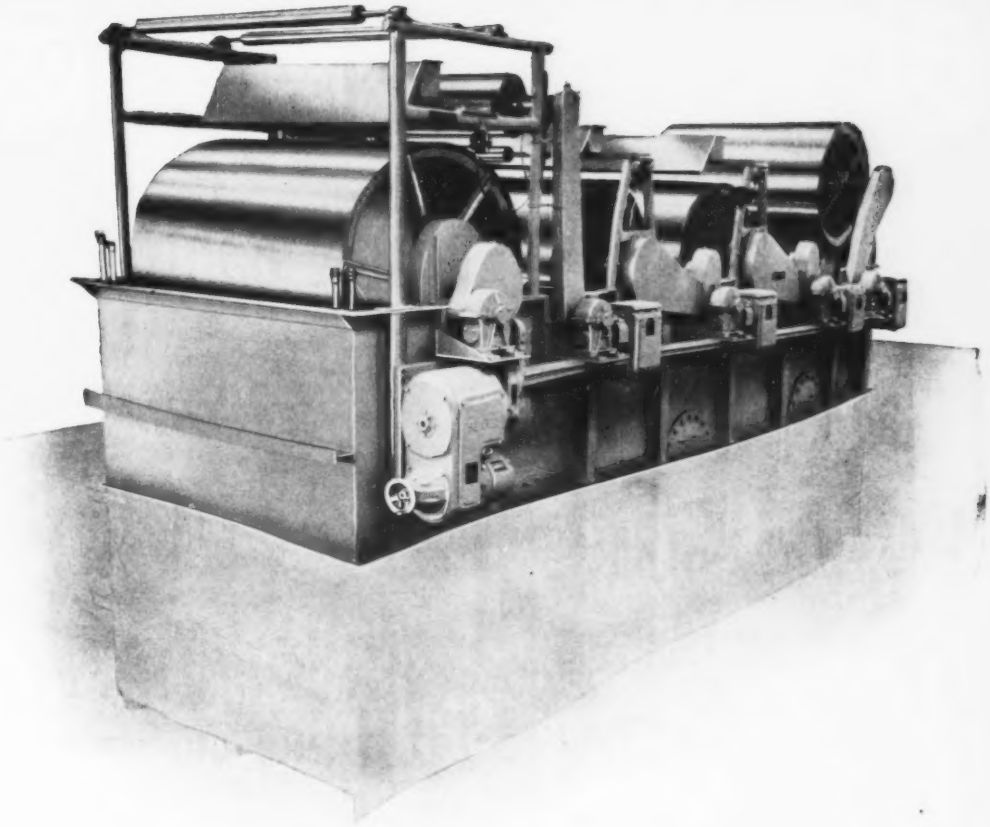
Keep a Step ahead with

VICTOR Ring Travelers

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 0737

GASTONIA, N. C. . . . . 358-364 West Main Ave. . . . . Tel. 247



Accent on EFFICIENCY

THE setting and boiling-off of cloth in preparation for dyeing is the most important step in the production of finer quality finished goods, and one to which Van Vlaanderen engineers have devoted much study.

The need for a machine which embodied the qualities of high speed, flexibility, perfect shrinkage control and suitability to a wide variety of fabrics has long been felt in the finishing industry.

The new Van Vlaanderen presetting and boil-off machine shown here has been engineered to meet this need. It marks the latest achievement in a long line of superior machines for processing modern fabrics.

VAN VLAANDEREN MACHINE COMPANY

370 Straight Street • Paterson 3, New Jersey

World's largest manufacturer of machines for processing modern fabrics

FOR YOUR INFOR M ATION

You don't need new capital

SYTON can give you...

The *benefits* of plant expansion—with *no extra plant investment!*

SYTON increases the strength of yarns spun on the woolen or worsted system 10% to 30%. Mills profit from this increase in many different ways:

- Many mills reduce twist, hence boost production.
- Others report fewer ends down during spinning and weaving... which also means more production.
- Still others find they can spin blends hitherto impossible.
- Almost all report they can spin any given stock to a finer count.

Hundreds of woolen and worsted spinners... more every day... are proving that Syton is a practical production speeder... a money maker for mill management.

Why not find out today how much Syton can mean to your mill? Our technical staff stands ready to help. Just send the handy coupon on the right.

Syton: Reg. U. S. Pat. Off.

MONSANTO
CHEMICALS — PLASTICS

SERVING INDUSTRY
WHICH SERVES MANKIND

FREE
Valuable Reference Book on Chemicals & Plastics

If your business uses chemicals or plastics, ask for your free copy of the 28th edition of "Monsanto Chemicals and Plastics"... the new Monsanto Catalog, just off the press. It has many improvements over previous editions, making it even more useful to you. The 28th edition is packed with information you will want at your fingertips. For your free and postpaid copy, mail the coupon or write: MONSANTO CHEMICAL COMPANY, Textile Chemicals Department, 140 Federal Street, Boston 10, Massachusetts.

QUICK FACTS about Monsanto's New Catalog

Describes more than 400 products.

Contains 176 pages (8½ x 11 inches).

Bound in plastic, opens flat.

Indexed for easy reference.

Contains many useful charts.

Has numerous interesting illustrations.

Gives useful product data such as

Typical analysis	Molecular weight
Specifications	Properties
Grades	Uses
Standard form	Shipping classification

NEW Catalyst AC
For Rapid, Thorough Curing of Melamine and Urea Finishes

Longer useful bath life.

Faster Curing.

Good Washfastness.

Less danger of residual odor.

Less need for critical temperatures in Pad Box.

New Catalyst AC gives longer useful bath life and induces better resin retention than any other commercial catalyst. In some cases, Catalyst AC gives resin baths more than twice the useful life possible with usual catalysts. Resin retention is equal or better, and curing rates are equal to or faster than those obtained with diammonium phosphate.

BATH STABILITY AT 25° C.

Bath Solution	*With 6% DAP (35% sol.)*	*With Catalyst AC*
20% Resloom HP	1 hour*	11 hours
33.3% Resloom M-75	15 hours	Stable after 24 hours
36.4% Urea-formaldehyde	8 hours	Stable after 24 hours

*Note: DAP is not *recommended* for Resloom HP.

Please send the handy coupon for more information on new Catalyst AC.

MONSANTO CHEMICAL COMPANY, Textile Chemicals Department
Desk TWT-18, 140 Federal Street, Boston 10, Mass.

Please send me a copy of the 28th Edition of "Monsanto Chemicals and Plastics". Information on Syton for spinning. Information on Catalyst AC.

Name Title

Company

Street

City Zone State

Efficient HINNEKENS DYE BECKS EQUIP THE PLANT OF KLUGER, INC.

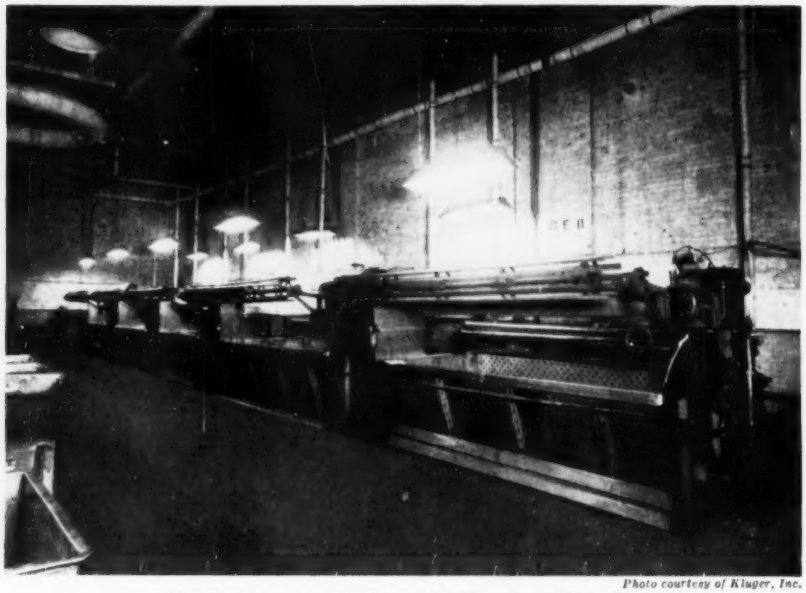
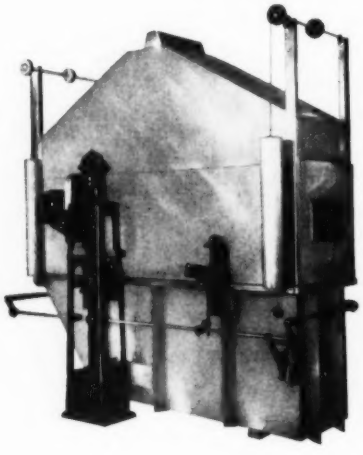


Photo courtesy of Kluger, Inc.

Showing four of a battery of 16 Hinnekens Dyebecks.

In the dye plant of Kluger, Inc., Fairlawn, New Jersey a battery of Hinnekens stainless steel open dye becks are relied upon to assure Kluger quality dyeing for every yard of fabric they process.



HINNEKENS STAINLESS STEEL ENCLOSED DYE BECK

is also preferred by leading dyers for uniformity of production and economical use of dyestuffs and steam.

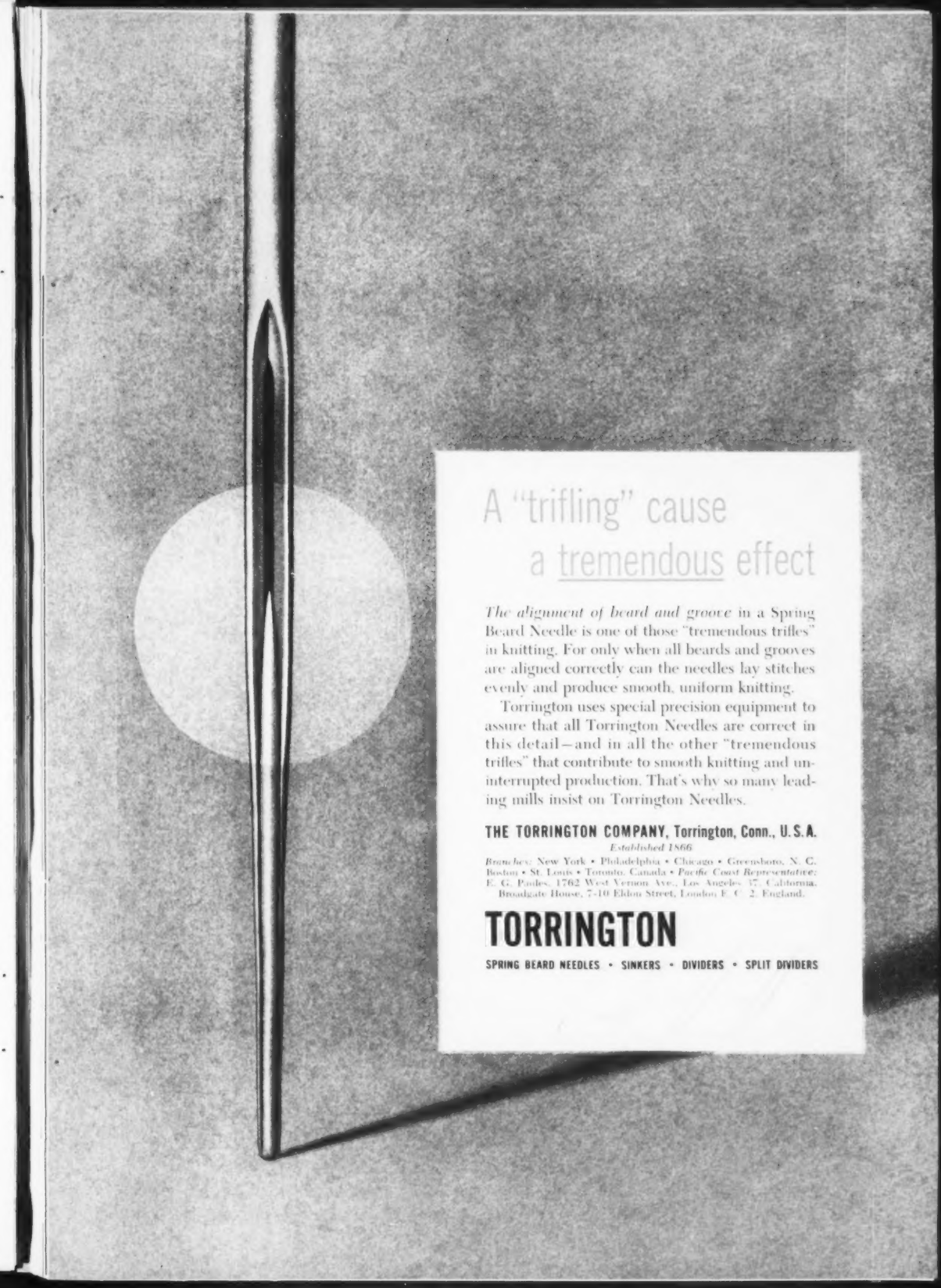
The Hinnekens Line of Textile Machines

—includes Dye Becks, Embossing Machines, Dye Jigs, Calenders, Padders, Tentering Frames, Quetsches, Beamers, Examining Machines, Palmer Tenter Unit, Print Washers, Conveyer Dryers, Mangles, Rolls, and other essential equipment, distinguished by better design and functional excellence.

Send for Catalog and full description of these and other efficient Hinnekens Machines.

THE HINNEKENS MACHINE CO. INC.

199 GODWIN AVENUE **PATERSON, N, J.**



A "trifling" cause a tremendous effect

The alignment of beard and groove in a Spring Beard Needle is one of those "tremendous trifles" in knitting. For only when all beards and grooves are aligned correctly can the needles lay stitches evenly and produce smooth, uniform knitting.

Torrington uses special precision equipment to assure that all Torrington Needles are correct in this detail—and in all the other "tremendous trifles" that contribute to smooth knitting and uninterrupted production. That's why so many leading mills insist on Torrington Needles.

THE TORRINGTON COMPANY, Torrington, Conn., U.S.A.

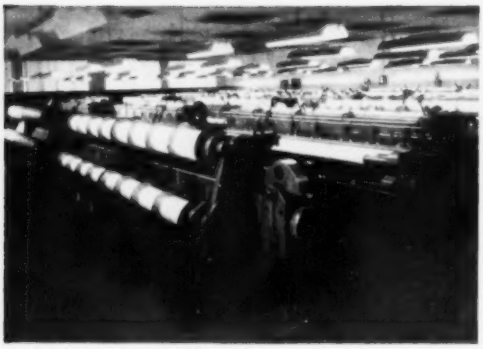
Established 1866

Branches: New York • Philadelphia • Chicago • Greensboro, N. C. Boston • St. Louis • Toronto, Canada • *Pacific Coast Representative:* E. G. Paules, 1762 West Vernon Ave., Los Angeles 37, California. Broadgate House, 7-10 Eldon Street, London E. C. 2, England.

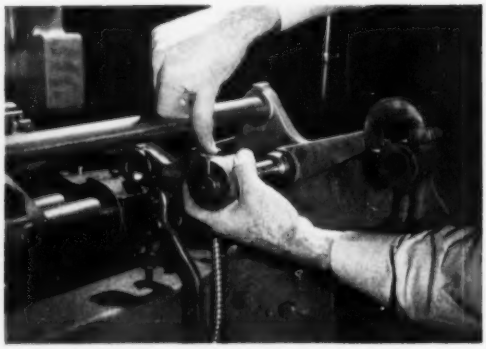
TORRINGTON

SPRING BEARD NEEDLES • SINKERS • DIVIDERS • SPLIT DIVIDERS

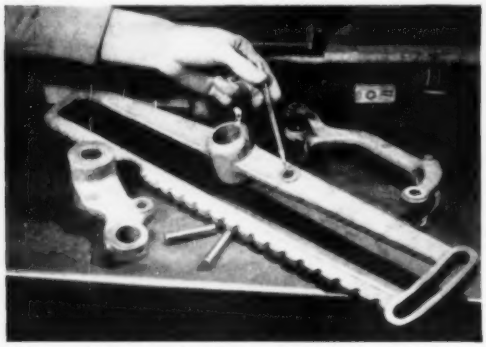
Torrington Needle Bearings Aid Production of Quality Fabrics in Reiner Tricot Machines



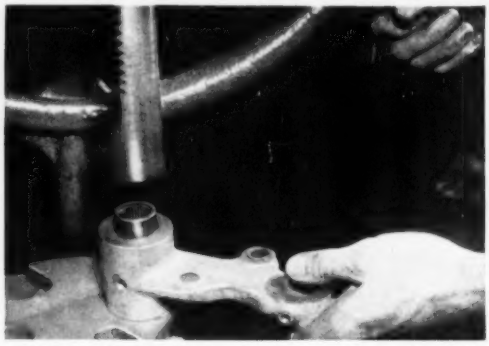
High fabric quality, steady production and economical maintenance are outstanding features of high speed Tricot Knitting Machines built by Robert Reiner, Inc. In the balanced floating controls, 8 Needle Bearings contribute to uniformity of knitting.



The balanced floating control design, with accurate response provided by the Needle Bearings, assures that the cloth will knit uniformly over the entire knitting length. Smooth operation results from the low friction coefficient of these high-capacity bearings.



The use of Torrington Needle Bearings helps keep the design simple, requiring only the elements shown here. An accurately machined bore serves as housing, and a hardened and ground shaft as the inner race. No spacers or retainers are needed.



Installation of Needle Bearings is an easy, quick operation. Each bearing is installed with one stroke of the arbor press, taking a firm press fit. These features mean economy in design, fabrication and assembly, providing anti-friction efficiency at low cost.

Knitting action of the Reiner Tricots is further aided by the use of 32 Torrington Needle Bearing Cam Followers, 2 NCS Needle Bearings supporting the lower beam ends, and 9 Spherical Roller Bearings on the cam shaft. Let our engineers help you apply Torrington Bearings to improve the performance and service life of your textile equipment. Write us today. THE TORRINGTON COMPANY, Torrington, Conn., or South Bend 21, Ind. District offices and distributors in principal cities.

TORRINGTON *NEEDLE* **BEARINGS**

Needle • Spherical Roller • Tapered Roller

Straight Roller • Ball • Needle Rollers

GET QUALITY IN QUANTITY

By the Pail, Drum or Tank Car, Flintkote can supply top quality adhesives to improve your product or processing

Let us help you solve production problems in coating, lamination, cementing, sealing, saturating or related processes.

Take a good look at the Flintkote line. Chances are a standard Flintkote product or an available formula will fit your requirements.

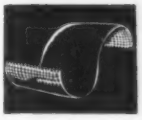
Look over the various types . . . crude, synthetic and reclaimed rubbers . . . natural and synthetic resins . . . asphalt emulsions and cutbacks.

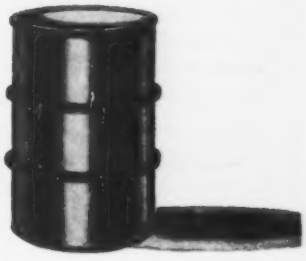
They're available in many forms . . . water dispersion types (non-inflammable) . . . solvent solution types . . . hot melt types and latex compounds. For roll coating, trowel, brush or spray application.

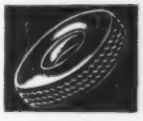
Do you work with metals, fiber, ceramics, paper, textiles? Do you want a product for end use . . . or for formulating and resale?

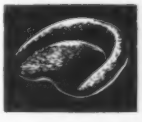
Whatever your requirements, you may save important time and money with a Flintkote product . . . either standard, or one we've made up just for you.

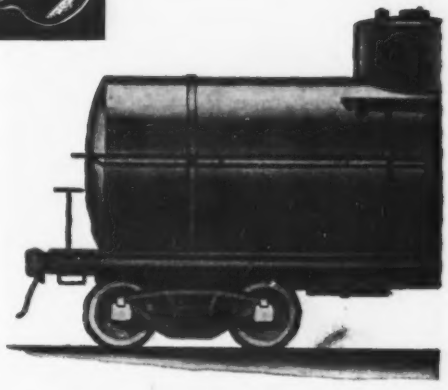
Our research, development and manufacturing facilities are at your service.











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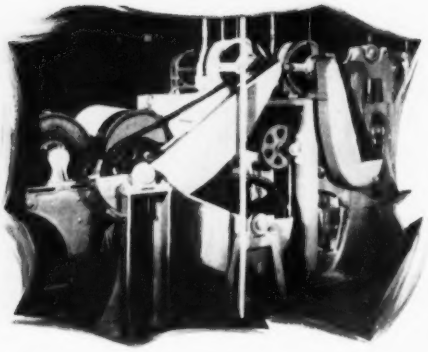

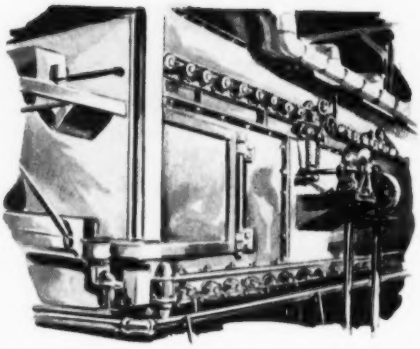

Diamond Roller Chains Insure Long-Life Efficiency of Textile Machinery

Like other important industries, the Textile Industry has not overlooked the economy of modern machinery drives and higher, more efficient running speeds made possible by Diamond Roller Chains.

Briefly the advantages are constant speed ratio, non-slipping operation, saving in power, and longer life. Maintenance is lower also because tension is not required to prevent slip, bearing pressures are reduced and adjustments for stretch, eliminated. Uniformity of product and reduced production costs are the result.

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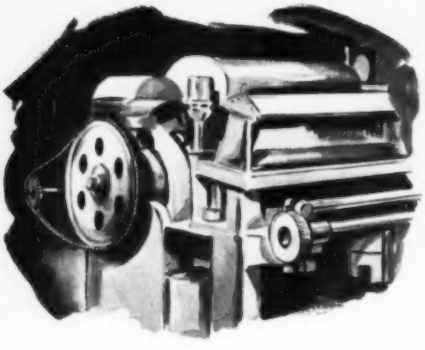
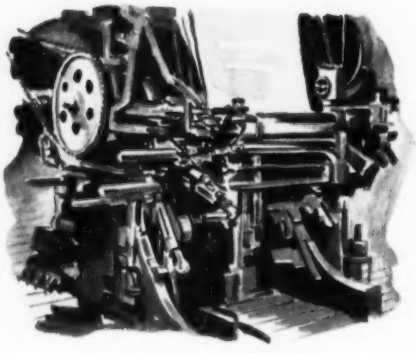
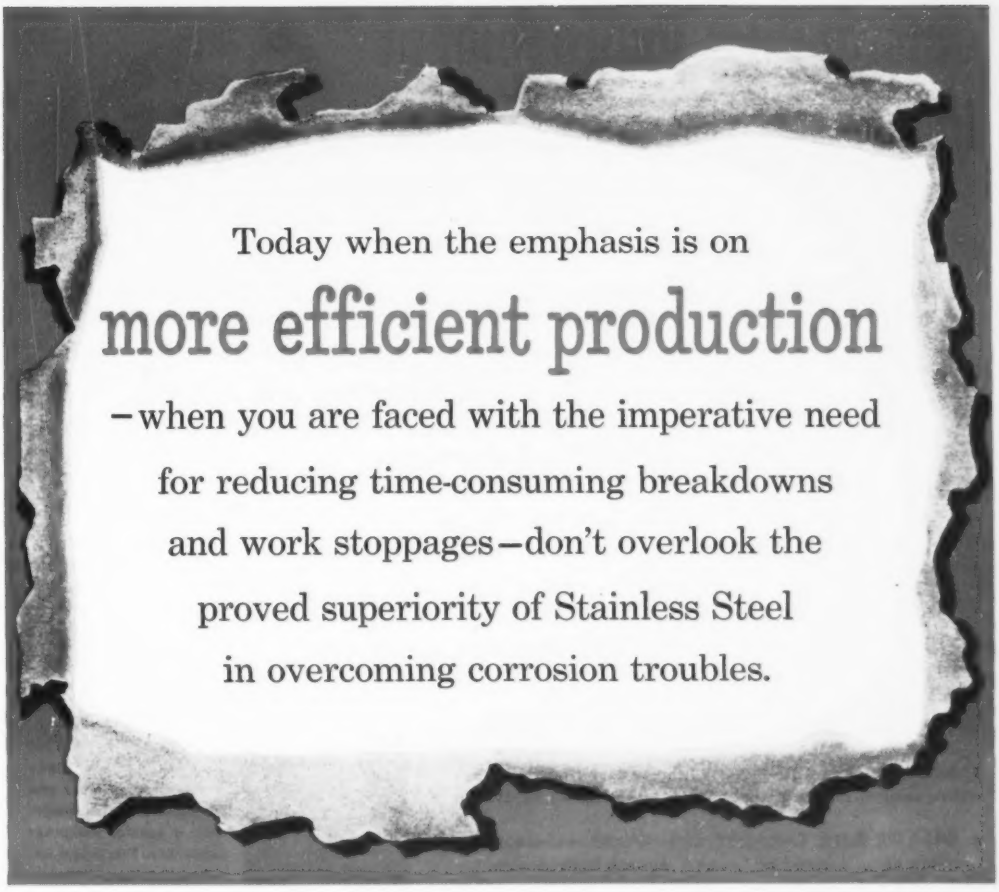
Offices and Distributors in
All Principal Cities.

DIAMOND ROLLER CHAINS






Today when the emphasis is on
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for reducing time-consuming breakdowns
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proved superiority of Stainless Steel
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NOT ONLY does Stainless Steel offer superior resistance to more types of corrosives than any other commercial metal, but where high temperatures and pressures are involved in which resistance to oxidation and retention of strength are imperative—Stainless Steel will most often meet requirements.

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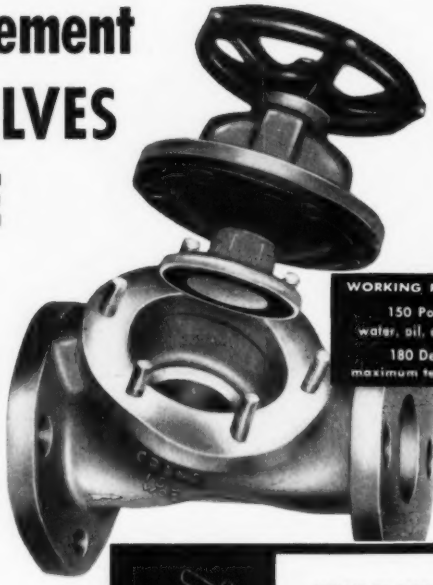


NEW SEATING ARRANGEMENT MORE DURABLE... SAFER... MORE EFFICIENT

Now, after completing exhaustive tests, Crane presents this better diaphragm valve—better suited for more services under today's working conditions. Stemming from basic improvements, such as the radically new bonnet-sealing and valve-seating arrangement, this original Crane design introduces many outstanding service features like those shown here.

1. LONGER DIAPHRAGM LIFE, because diaphragm is used *only* to seal the bonnet—not for seating purposes.

2. POSITIVE SHUT-OFF in case of diaphragm failure. This is an exclusive Crane safety feature.

3. ACCURATE SEATING—new flat face disc with durable, resilient seating surface assures tight closure on all fluids.

4. GREATER FLOW CAPACITY with reduced resistance and pressure drop, assured by Crane Y-pattern body design.

5. EASIER OPERATION—Crane separate disc and diaphragm construction takes less torque—fewer turns—to operate.

HOW IT WORKS

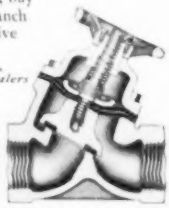
The Crane diaphragm serves one function only—sealing the bonnet. It is not subject to crushing and rapid wear. The seating member is a separate circular flat face disc, firmly attached to the stem and joined to the diaphragm with a special leakproof connection. This independent seating feature permits positive shut-off with no loss of fluid, even in case of diaphragm failure.

GET *THIS DESCRIPTIVE CATALOG*

See these new valves—the outstanding buy in their class—at your local Crane Branch or Wholesaler. Or write for descriptive catalog AD-1761.

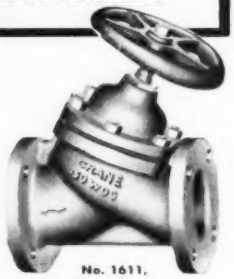
CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill. *Branches and Wholesalers Serving All Industrial Areas.*

This new Crane line includes iron valves with screwed ends in sizes ½ to 2 in.; with flanged ends from ½ to 4 in. Neoprene coated valves—flanged ends only—in sizes from ½ to 4 in.



No. 1610, screwed ends

No. 1615, flanged ends, neoprene coated



No. 1611, flanged ends

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VALVES
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DEPENDABLE RUGGEDNESS
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CONCORD
STEAM #10
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BWH
1. Tough, long-wearing, abrasion-resistant cover.
2. Asbestos braid insures maximum cover adhesion, and includes NEW type static conducting wire.
3. High-tensile steel wire for strength, for safety.
4. Heat & oil resistant tube.

BWH WIRE BRAID STEAM HOSE CAN REALLY "TAKE IT"

HERE'S PROOF!

Tests in the field show our new Concord #10 Steam Hose is a star performer. It doesn't get stiff and brittle, as some hose does when saturated with scalding steam. It's easy to handle. It's next to scuff-proof, even when banged against machinery and yanked over rough surfaces. But somebody raised another question.

"What happens," they asked, "if this wire-braid hose should be accidentally run over by a truck?"

To answer that question, we deliberately ran a 30-ton truck over our new Concord #10. What did happen? Nothing! The hose kept right on with its trouble-free performance.

Naturally we don't recommend such treatment. But we do say it's compelling proof that our Concord #10 is the last word in sturdiness. Here's what makes this hose outstanding:

1. Same dependably strong, heat and oil resistant tube that has won fame for extra service in BULL DOG Steam Hose.
2. Braids of high-tensile steel wire, heat and pressure resistant.
3. Asbestos braid assures perfect cover adhesion, includes NEW type static-conducting wire.
4. Tough cover, specially designed to resist abrasion and high temperatures.

With these features, it's easy to see why the new Concord #10 meets every need for steam hose that withstands 200 lb. working pressure with SAFETY, does a real job in helping you cut maintenance costs.

☆ ☆ ☆

HAVE YOU A JOB WHERE STAMINA COUNTS?

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CALL IT THE "COMPOSITE VALVE"—the giant that would result if *all* the valves in a plant were *one* valve. As pictured here, its proportion to other equipment in this detailed model of an automobile factory is fairly accurate. Representing your total valve investment, its size may surprise you, but it must be considered in any plan for economical plant operation.

IT PAYS to keep *your* "composite valve" in mind at all times . . . and thus avoid the common error of dismissing valves as a comparatively unimportant investment. With wages and material costs the highest ever, your total valve expense warrants the same careful attention that you give to operating costs of larger plant units.

EXCESSIVE MAINTENANCE of one inferior valve is insignificant, but multiplied by thousands, it is a serious drain on operating budgets. JENKINS BROS. helps you meet this problem two ways. First, by building extra endurance into Jenkins Valves, making them the longest-lasting, lowest-upkeep valves that money can buy. Second, with advice from Jenkins Engineers on any question of proper selection, installation, or maintenance.

For all new installations, for all replacements, rely on Jenkins quality and engineering for lowest valve costs in the long run. Sold through leading Industrial Distributors.

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"PRACTICAL PIPING LAYOUTS" is a 32 page book containing diagrams and descriptions of 35 basic piping layouts with complete recommendations for valve selection and location in the lines. Tells you "which valve where for best performance". FREE on request. Write JENKINS BROS., 80 White Street, New York 13, N. Y.

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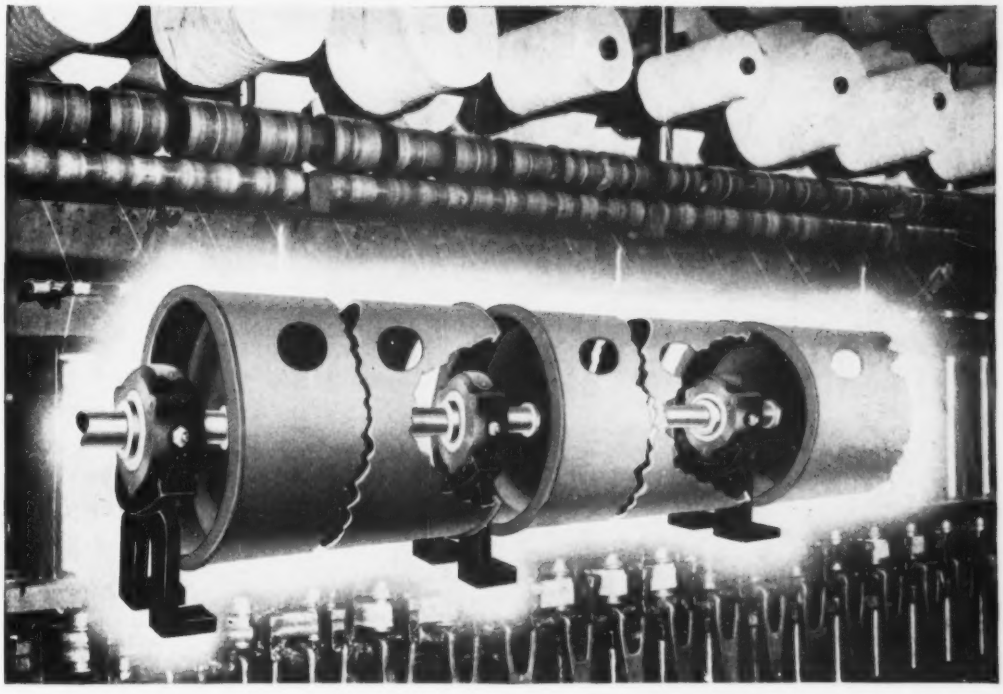
Types, Sizes, Pressures, Metals for Every Need



MORE PRODUCTION EFFICIENCY LESS POWER LUBRICATION REPLACEMENT

This "four-in-one!" bearing unit, with the addition of easily mounted fittings and brackets, is readily adaptable for installation at **outboard — head end — intermediate —** and **foot end** positions.

. . . *With Southern States Ball Bearing Cylinder Unit*

THE installation of these units on your cylinders means to you higher cylinder speeds — less power consumption — simplified lubrication problems and smoother operation through reduction of friction, heat and wear. Southern States Equipment Corporation's cylinder bearing is equipped with an SKF self-aligning double row ball bearing with extended race, designed specifically for the textile industry. Increase the efficiency of your old frames with this comparatively simple, low cost installation of ball bearing units on your cylinders.

Southern States Equipment Corp.

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Raise the QRE* RATING of your Package Dyeing

*QRE = Quality, Reproducibility, Efficiency

...with the Brown Control System

For Package Dyeing, it's easier to get *quality*, *reproducibility*, and *efficiency* by accurate control of temperature, treatment time, and flow reversal.

The Brown Package Dyeing Control System meets requirements in a compact and versatile combination of instrumentation. It provides for convenient setting of the temperature controller and the timers, for starting the flow of dye liquor in either direction, and for easy shifting between automatic and manual operation. Signal lights indicate the direction of liquor flow at all times.

You get complete control for your package dyeing in a complete package unit . . . centralized, convenient, easy to operate and maintain!

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VISCOSE RAYON, AND COTTON,
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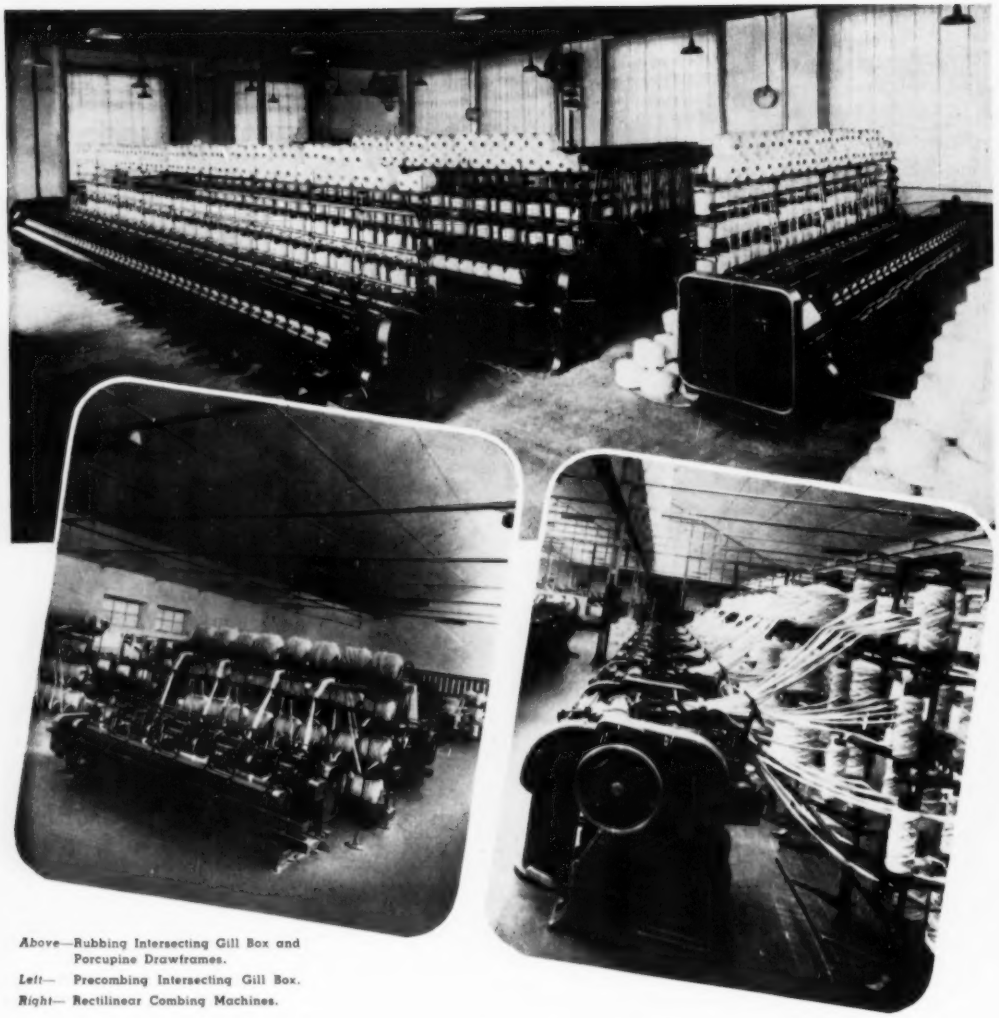
ESPECIALLY RECOMMENDED FOR PACKAGE MACHINE DYEING



Above—Rubbing Intersecting Gill Box and Porcupine Drawframes.
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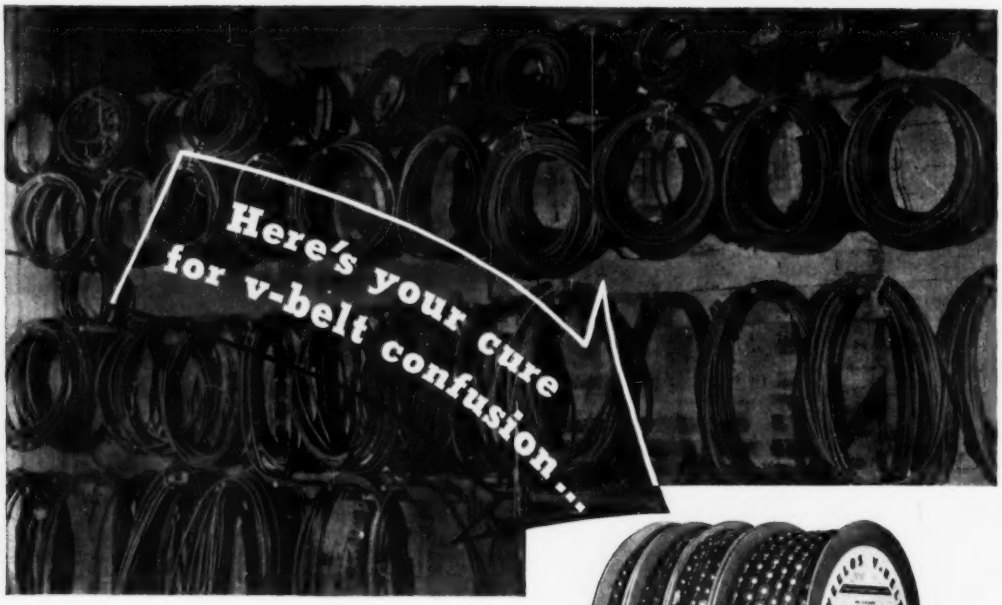

4 reels of VEELOS can replace 316 sizes of endless v-belts

HAS your v-belt inventory grown too large, too costly and too complicated by too many sizes of endless v-belts? No matter what size your inventory, Veelos can cut it—drastically!

Let's assume that you use O, A, B and C widths. With only four reels of Veelos you can make up more than 316 sizes of endless v-belts. If you use only A and B sizes, your entire v-belt inventory will be complete with just two reels. Any length belt is quickly uncoupled from a reel, made endless and installed.

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FOR REEL STRENGTH *and* LIGHTNESS..STAINLESS STEEL!

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ENDURO also is the *thrifty* metal . . . in the textile field and every other field. It may cost a trifle more initially, but this difference is quickly offset by more continuous production, less spoilage, less maintenance. ENDURO pays its way and turns in a bonus, too.

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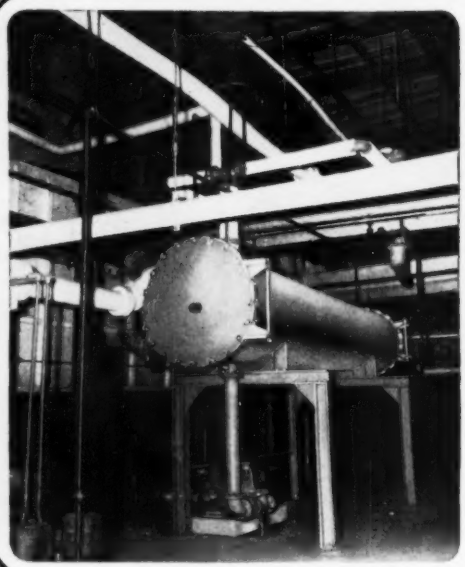

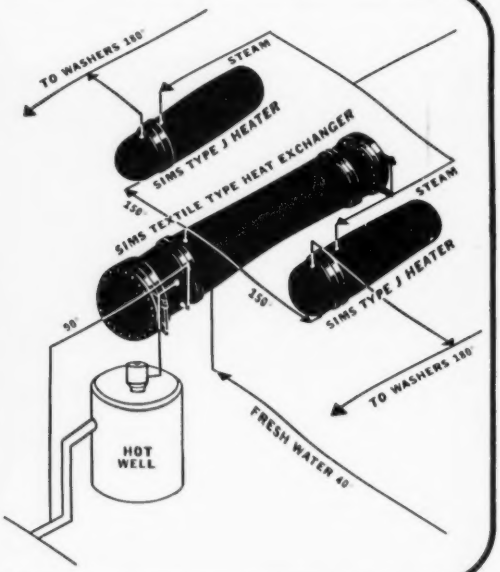

Georgia Textile Plant orders another SIMS HEAT RECOVERY SYSTEM

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Consult **SIMS OF ERIE**

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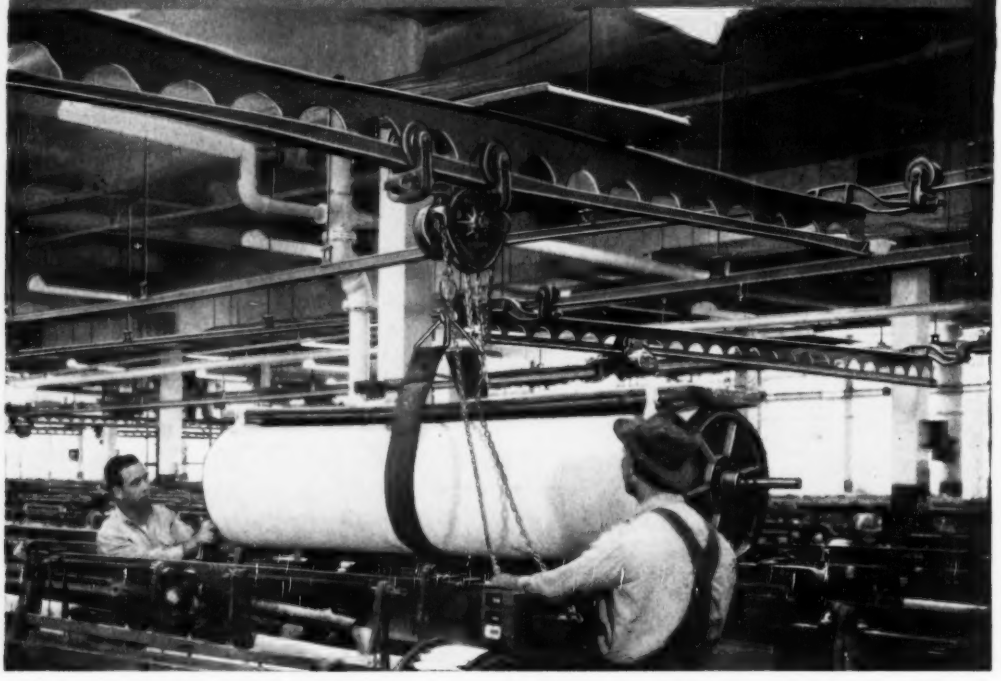
The Fast, Safe, Efficient Way to

HANDLE 24" AND 30" BEAMS IN THE WEAVE ROOM



Because of large economies resulting, textile mills are rapidly going from the old 18" standard to 24" and 30" diameter beams. This means heavy beams with harness — often running 1000 to 1500 pounds — far too cumbersome to handle manually with old-time floor dollies. It also means sizes larger than shaft alleys in most weave rooms will accommodate.

The only natural and obvious solution to the handling of such large beams in the weave room is the use of simple, inexpensive Cleveland Tramrail cranes, or track and switch systems. Thereby, heavy beams can be easily moved overhead to any loom by one man. Aisle widths need not be changed. The same crane that places a beam in a loom removes and transports the cloth.

Efficient storage racks can be used with Cleveland Tramrail systems, permitting orderly storage of beams, three or more high. Any beam can be selected without disturbing others and delivered directly to any loom without rehandling.

Safety is improved tremendously when Cleveland Tramrail is provided. Hernias become practically non-existent. Injury to beams is greatly reduced. Floor damage is minimized.

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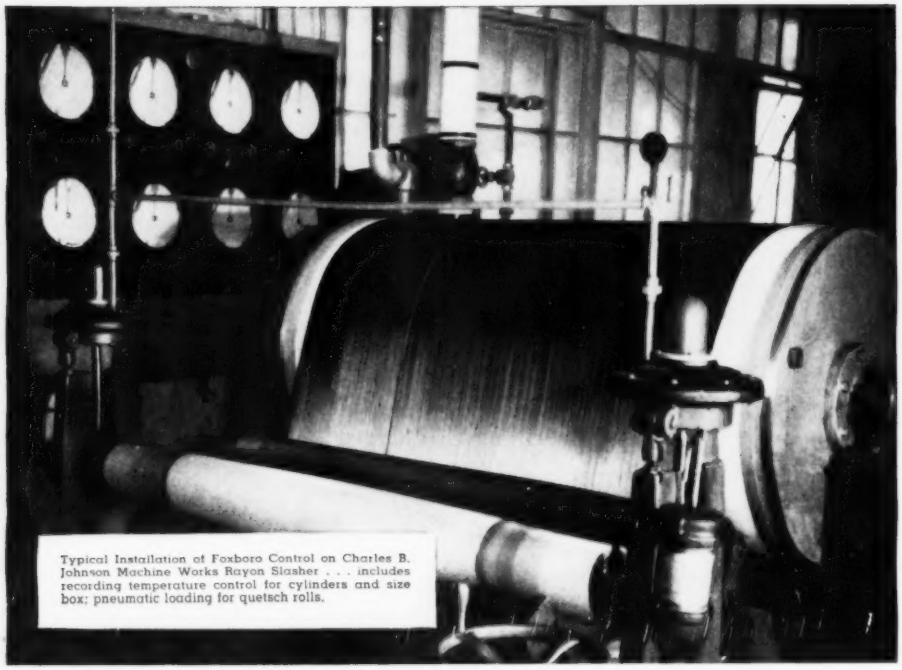
This informative handbook, "Tide Water Associated Lubricania," gives clear, concise descriptions of the basic tests used to determine important properties of oils and greases. For your free copy, write to Tide Water Associated Oil Company, 17 Battery Place, New York 4, N. Y.

REFINERS AND MARKETERS OF VEEDOL — THE WORLD'S MOST FAMOUS MOTOR OIL

"UP" SLASHER EFFICIENCY

with better-engineered temperature control



Typical Installation of Foxboro Control on Charles B. Johnson Machine Works Rayon Slasher . . . includes recording temperature control for cylinders and size box; pneumatic loading for quetsch rolls.

Slasher drying cylinders can be operated more easily and with definite cost savings, under Foxboro recording temperature control. Installations are simpler, measurement and control more accurate. These better engineered control systems are based on the unequalled speed and precision of the Foxboro On-Off Controller. Consider the advantages of this and other Foxboro slasher control systems. See how they "up" slasher efficiency—*and product quality*—economically and easily. Write for complete details. **The Foxboro Company, 84 Neponset Avenue, Foxboro, Mass., U. S. A.**

Check these four benefits of Foxboro Slasher Drying Control:

1. *Condensate positively ejected . . . no need for vacuum or compressed air, even at lowest operating temperatures.* **2.** *Lower initial and maintenance cost.* **3.** *Sensitive bulb of controller is located WITHIN the cylinder for fastest response.* **4.** *Closer control of cylinder drying temperatures is assured by the unique performance of the Foxboro On-Off Controller . . . fast, accurate, free from complicated adjustments.*

Better-engineered control for slashers

Recording Size Cooking Control

Recording Size Storage Control

Size Box Level Control

Recording Temperature Control for Cylinders

Recording Temperature Control for Size Box

Indicating Pneumatic Loading for Quetsch Rolls

FOXBORO
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RECORDING · CONTROLLING · INDICATING
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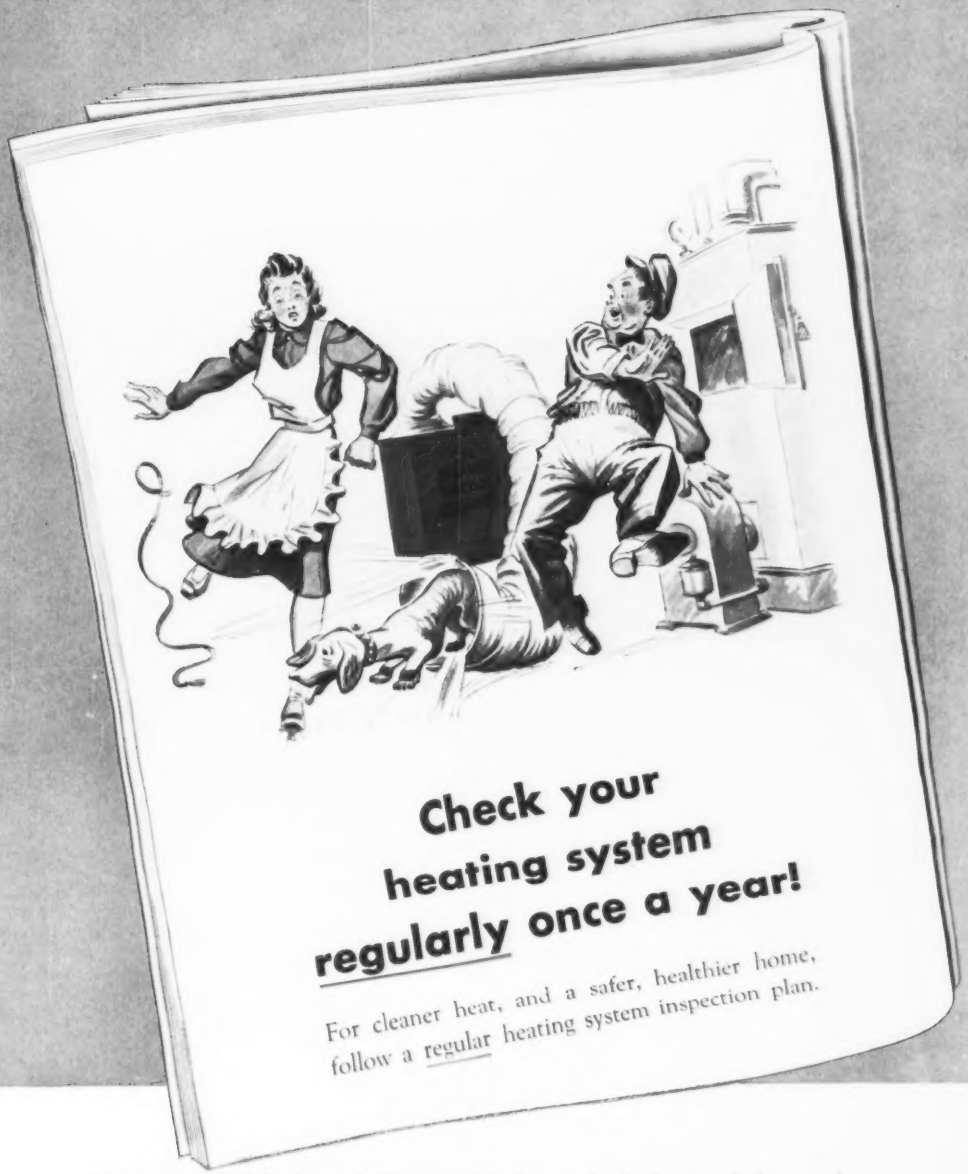

Check your heating system regularly once a year!

For cleaner heat, and a safer, healthier home, follow a regular heating system inspection plan.

Have your Full-Fashioned Knitting Machines checked—regularly—to keep them at highest efficiency . . . Follow a regular program for reneedling and your needle bars are always in shape for better knitting . . . Follow a regular program for reconditioning and your plant is always at peak performance. We will be glad to discuss this matter of regularity as it applies to your mill operation.

TEXTILE MACHINE WORKS • READING, PA.

The "READING"
Full-Fashioned Knitting Machine

Where Flexibility Counts

When a pole vaulter soars gracefully into the air, he depends on the flexibility of the pole for the final kick that carries him over the bar.

It is this kind of flexibility that is built into Textile Spring-Beard Needles. Textile controls—automatic and electronic—operate at every step in the production sequence to achieve exactly the right tempering of the needles. You can see the difference in smooth, even knitting.

TEXTILE MACHINE WORKS, READING, PENNA.

Textile

SPRING-BEARD NEEDLES

For Full Fashioned and Warp Knitting

THIS revolutionary finishing technique subjects the greige goods to a heat bath of 1200 Fahrenheit to give texture and pliability to fabrics woven of Fiberglas yarns. Coronizing cements and relaxes the yarns, and sets the curves making a wrinkle-proof fabric with soft hand and permanent water-repellency. Other important advantages can be achieved in the finishing. Coronizing has vastly extended the uses for Fiberglas yarns, for now you get textile characteristics in glass fabrics!

Fiberglas yarns and Coronizing are made to order for today's competitive markets. They offer many opportunities for the creation of improved products with new and different selling features. The remarkable Fiberglas marquisettes — a sensation in the curtain market — are just one example of the possibilities inherent in this new process.

These plus textile values are yours for the taking. We will welcome the opportunity to work with you in your mills, or through our textile laboratory where skilled technicians are at your service. Write or phone Owens-Corning Fiberglas Corporation, Textile Products Division, 16 E. 56th Street, New York 22, N. Y.

In Canada: Fiberglas Canada Limited, Toronto, Ontario.

- High Tensile Strength
- Dimensional Stability
- Non combustibility
- Lasting Beauty
- Resistance To Mildew & Rot
- Excellent Electrical Properties
- Resistance To Oils & Acids

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OWENS-CORNING FIBERGLAS *Yarns*

The Cocker High Speed Section Beam Warper

With Magazine Cone Creel
And Eyeboard Stop Motion

This machine is made heavy enough so that it will continue to operate at maximum speeds with a minimum of vibration and wear. Some of its special features are . . .

Beam Cylinder: of steel tubing, accurately turned and balanced. Has large diameter journals mounted in self-aligning ball bearings.

Beam Carrier Rolls: of heavy design, with removable beam journals roller bearings.

Motor Drive: with built-in magnetic brake that gives quick, smooth stopping.

Measuring Equipment: accurate warp measurement secured through measuring from the covered beam cylinder and electrical automatic counter clock receiving its action from the beam cylinder. Stops the warper for any required length without use of change gears.

Knock-Off Action: instantaneous in action and simple in arrangement, with push-button stations for starting, stopping, and jogging the machine.

For full information, quotations, etc., write, call or wire

Cocker Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

STANDARD Durene*

will boost your production and sales of quality knit goods . . .

Made of Durene® medium-ply mercerized combed cotton yarn
4 WAYS BETTER than ordinary cotton yarns
EXTRA COMFORT ---more absorbent
EXTRA STRENGTH ---longer wear
EXTRA QUALITY ---lasting lustre
EXTRA SERVICE ---easy to wash

*Reg. U.S. Pat. Off.

Standard Durene's lustre, uniformity and smooth, even running prove a boon to Durene licensees . . . make it easier to meet Durene quality standards . . . enable you to concentrate on workmanship and serviceability.

If you are not a Durene licensee and want to qualify so that you can ride in on the big national Durene campaign . . . 15 full color pages promoting Durene sales in the Saturday Evening Post, Ladies' Home Journal, Good Housekeeping . . . use Standard Durene, a superior quality controlled mercerized yarn . . . made in our own plants *under our complete control of all processing from selected raw cotton to finished yarn. 10's to 120's ply, natural, bleached and dyed.*

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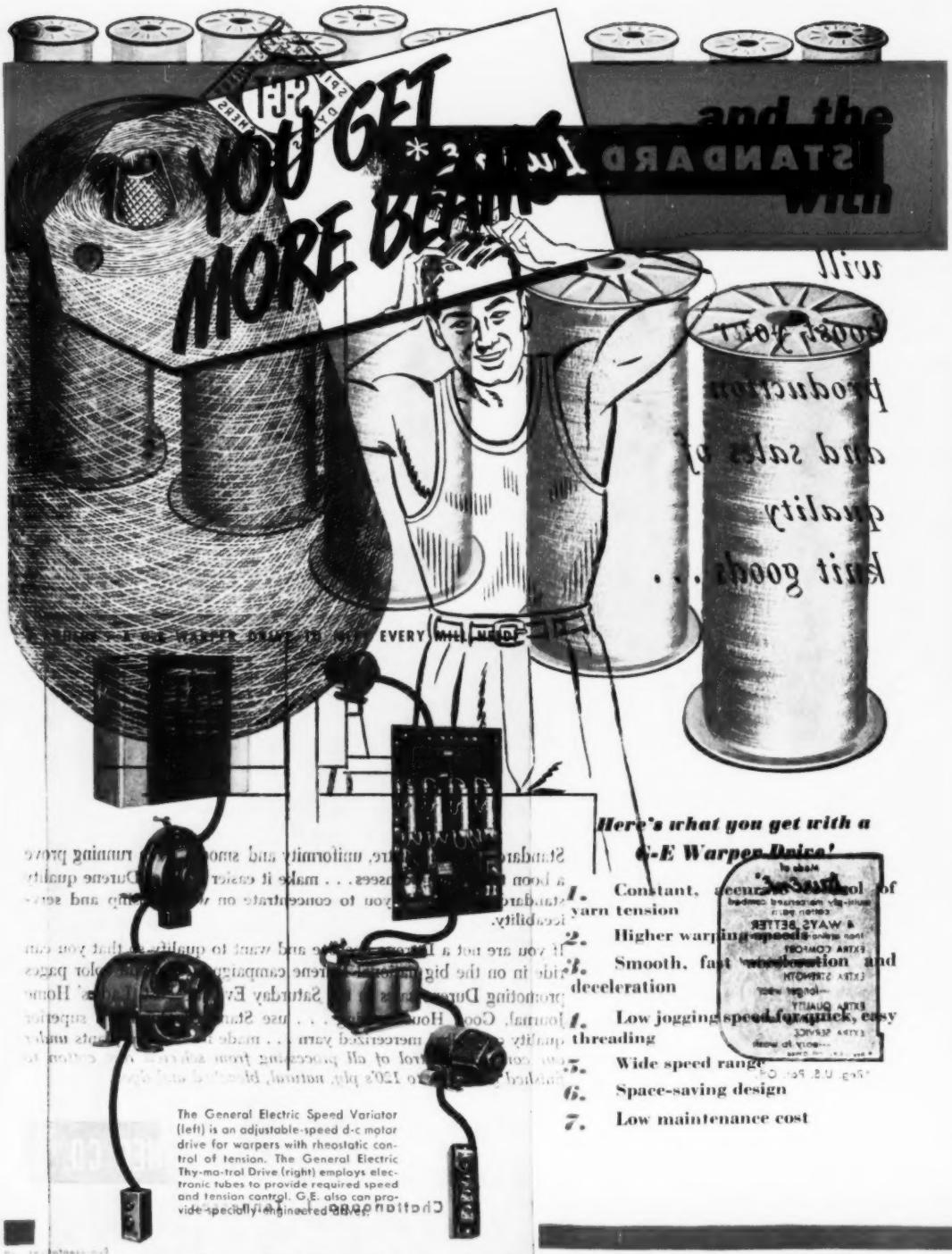
Philadelphia 9, Pa. 123 S. Broad St. | New York 16, N.Y. 185 Madison Ave. | Chicago 54, Ill. Merchandise Mart | Greensboro, N. C. Guilford Building | Reading, Pa. 509 Walnut St. | Utica, N.Y. P. O. Box 105 | *Representatives in Central and South American Countries*

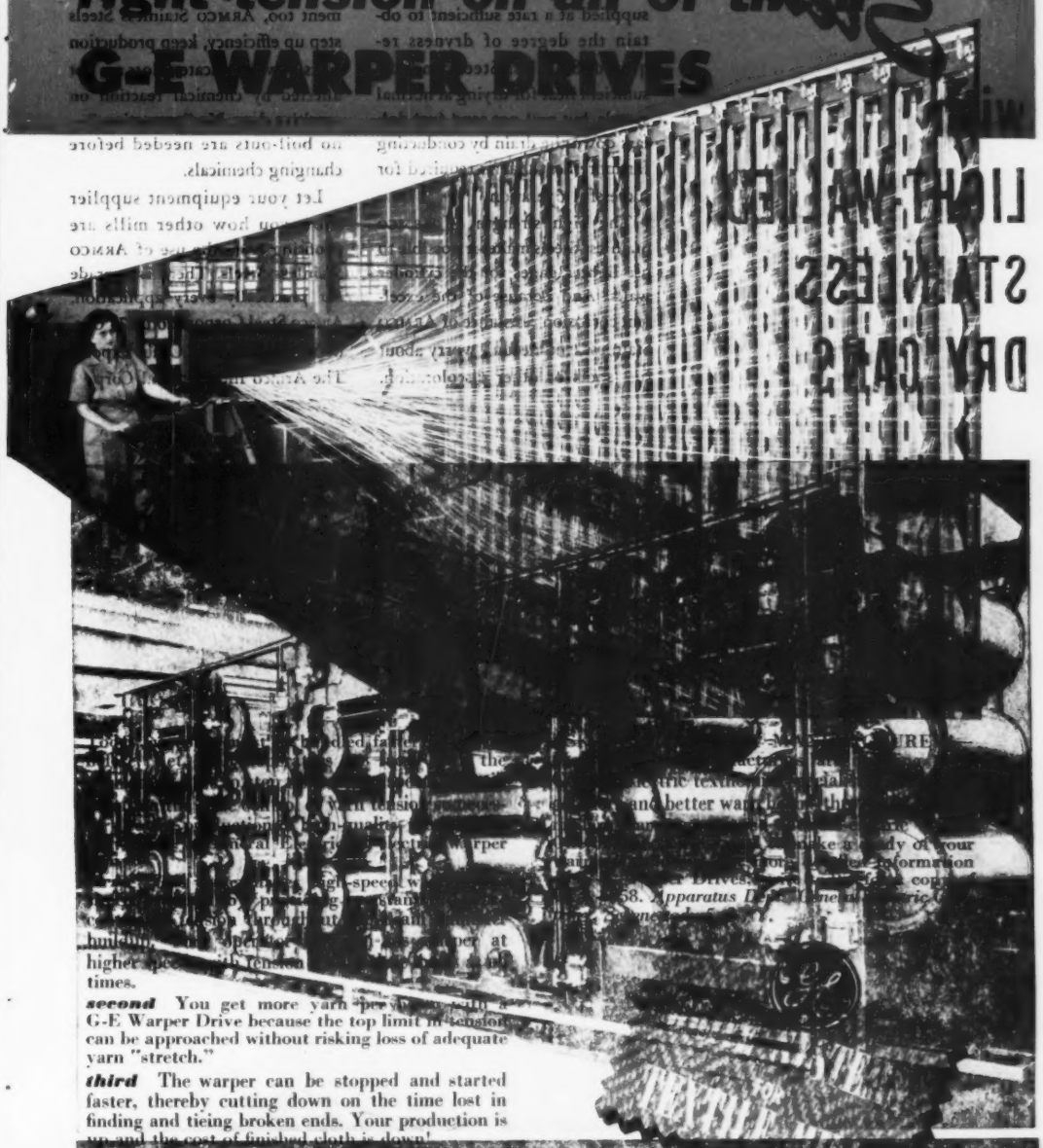


Here's what you get with a G-E Warper Drive!

1. Constant, accurate control of yarn tension
2. Higher warping speeds
3. Smooth, fast acceleration and deceleration
4. Low jogging speed for quick, easy threading
5. Wide speed range
6. Space-saving design
7. Low maintenance cost

The General Electric Speed Variator (left) is an adjustable-speed d-c motor drive for warpers with rheostatic control of tension. The General Electric Thy-mo-trol Drive (right) employs electronic tubes to provide required speed and tension control. G.E. also can provide specially engineered drives.

right tension on all of the yarn with G-E WARPER DRIVES



second You get more yarn per [illegible] with G-E Warper Drive because the top limit in tension can be approached without risking loss of adequate yarn "stretch."

third The warper can be stopped and started faster, thereby cutting down on the time lost in finding and tieing broken ends. Your production is up and the cost of finished cloth is down!

Save Steam with LIGHT-WALLED STAINLESS DRY CANS

In many textile drying systems, especially the cascade types, ARMCO Stainless Steels spell greater efficiency with important savings in fuel and steam.

In drying cloth, heat must be supplied at a rate sufficient to obtain the degree of dryness required. Stainless Steel conducts sufficient heat for drying at normal speeds, but will not send fuel dollars down the drain by conducting far more heat than is required for successful operation.

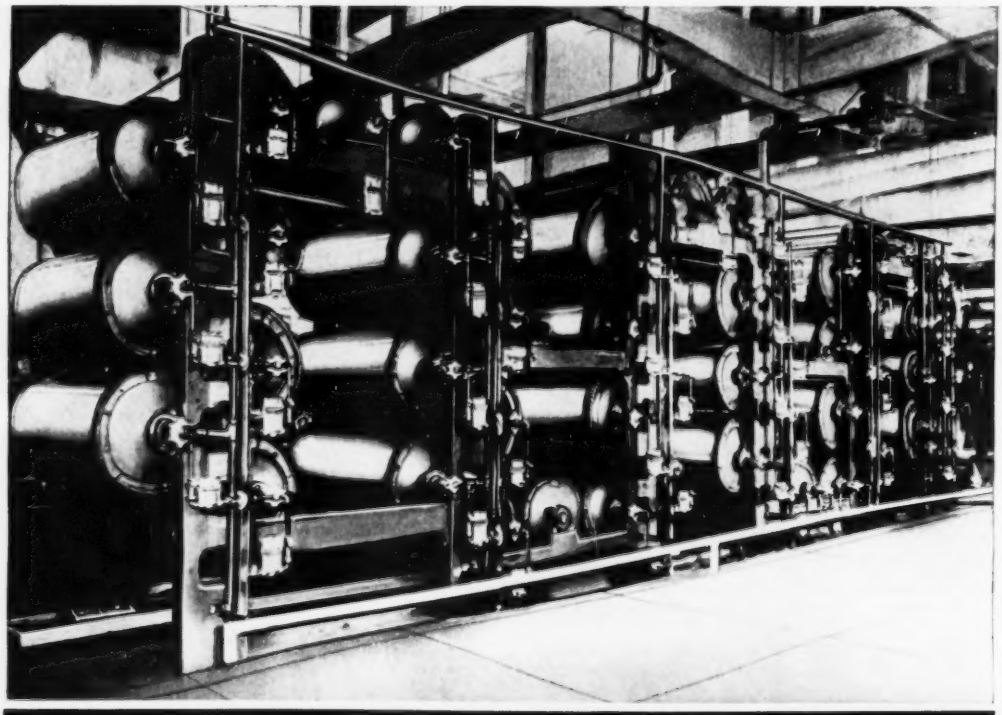
The high strength of ARMCO Stainless Steels makes it possible to use lighter gages for the cylinder walls. And because of the excellent corrosion resistance of ARMCO Stainless, you needn't worry about rust spots or other discoloration.

RESISTS DENTING TOO

The hard smooth surface of this solid, corrosion-resisting steel also resists denting and scratching. And it is exceptionally easy to clean.

In bleaching and dyeing equipment too, ARMCO Stainless Steels step up efficiency, keep production costs down. Delicate colors are not affected by chemical reaction on sensitive dyes. No "corrections"—no boil-outs are needed before changing chemicals.

Let your equipment supplier show you how other mills are profiting from the use of ARMCO Stainless Steels. There is a grade for practically every application. Armco Steel Corporation, 274 Curtis St., Middletown, Ohio. Export: The Armco International Corp.



ARMCO STAINLESS STEELS

Century Type RS, repulsion start, induction, single phase brush lifting motors are ideal for installation on reciprocating pumps, compressors and other hard-to-start equipment.

They provide the power to start under load — even in very cold weather — without overmotoring the driven machine.

Repulsion start motors provide greater starting torque per ampere of current than any other type of single phase motor — consequently the least disturbance to line voltage — an advantage on long or small capacity transmission lines.

They are widely used in the rural areas which usually have only single phase energy.

Many power companies are recommending the use of single phase motors up to 7½ HP, in residential districts of the larger cities, because polyphase energy is not always available.

Century Type RS brush lifting motors are built in sizes from ½ to 20 HP.

Century builds a wide range of types of motors from 1/6 to 400 horsepower for all the popular electric power applications.

Specify Century motors for all your electric power requirements.

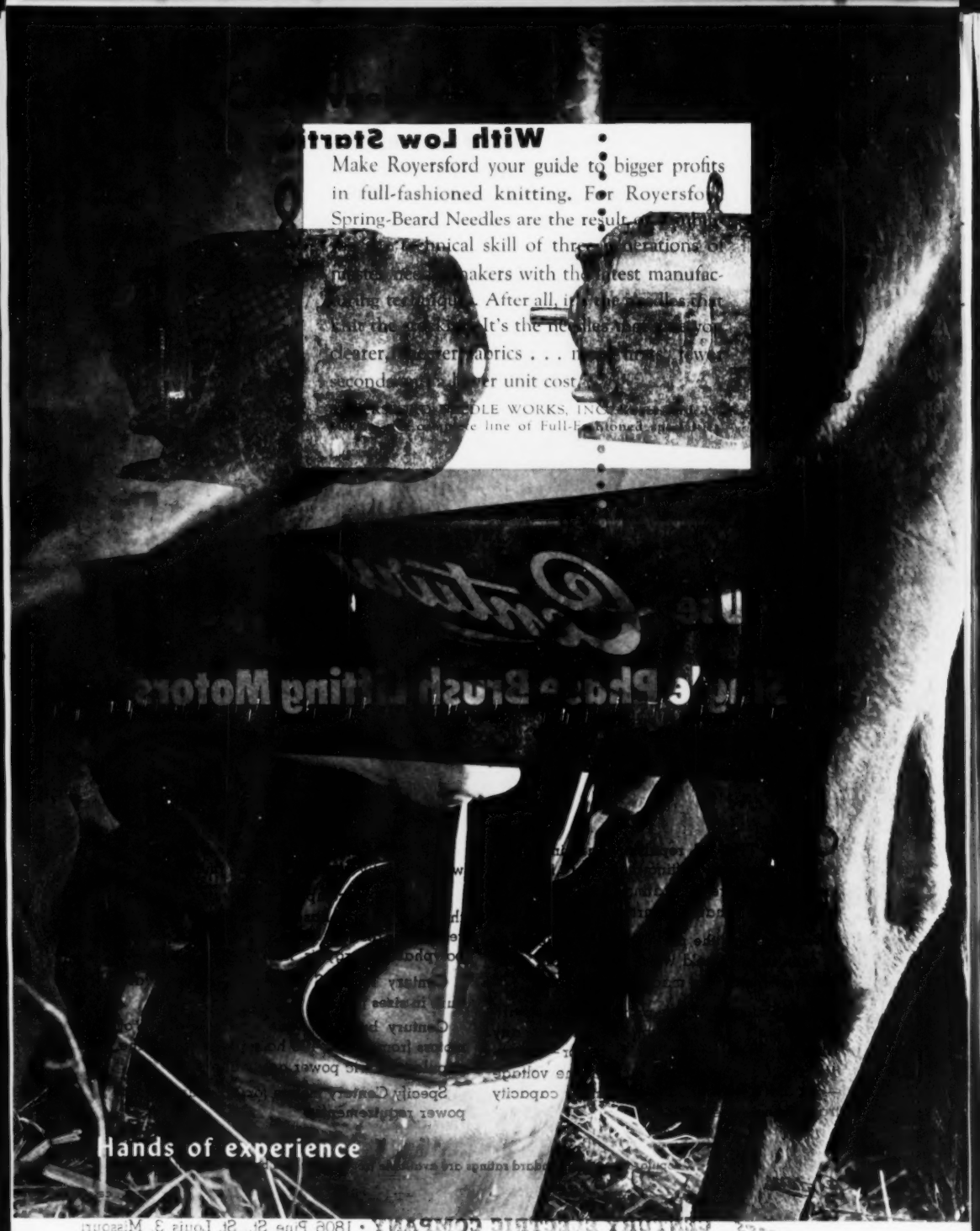
Popular types and standard ratings are available from factory and branch office stocks

CE-629

Century C MOTORS

CENTURY ELECTRIC COMPANY • 1806 Pine St., St. Louis 3, Missouri

Offices and Stock Points in Principal Cities



Royersford

—the Master Needle Maker

Advanced ENGINEERING In Swiss Stoffel Plant

HIGHLIGHTS: *Water at 327° F. used—Two systems of air conditioning integrated—Tunnels carry utilities—Double glazing has one pane at angle —Mezzanine office is control room—Fine employee facilities provided.*

By H. ULRICH STEINMANN
Kusnacht-Zurich, Switzerland

Although built in 1942, the Lichtensteig, Switzerland, mill of Stoffel & Co. at St. Gall can be considered quite modern. Incorporated in the plant are advanced ideas even by the standards of today. We understand that an additional unit is being built in the space beyond and at the side of the mill shown above.—Editor.

THE STOFFEL LICHTENSTEIG weaving mill was built when Switzerland was short of building materials because the importing of most raw materials was cut off by the war. There was especially a great shortage of cement, iron rod, and bricks.

The type of construction chosen was, therefore, a combination of steel and concrete. Due to a limited building site between hills and a river, two-story construction was necessary.

The ground floor, which has light from the windows in the side walls, is used as warehouse, for lavatories, garages, etc. The upstairs floor, the actual "production floor," has two rows of skylights with a free span of around 90 ft. each.

DOUBLE-GLAZED SKYLIGHTS. Special attention was given to the construction of the skylights. The steel girders holding them are so designed that practically no light is absorbed. The skylights consist of an upper and lower glazing. The two glazings, naturally, give a better insulation. They are not parallel, as is generally the case. Instead, the lower glazing has an inclination which is just steep enough so that any amount of water which might condensate on it does not drop into the room but runs down along the glass. The plastering of the frame which supports the skylight is constructed as a drain and takes up the water condensate resulting from the constant humidity in the weaving rooms during very cold outdoor temperatures.

TUNNEL SYSTEM. The whole plant has a system of tunnels underneath the ground floor. All the installations are situated in these tunnels; therefore, practically no pipes and cables are placed in the plant itself, and the maintenance of the installations is most convenient. All cables and pipes go from the tunnel through the floors directly to the machines. No room has any overhead installations.

The different departments are located in the ordinary way. The goods in process circulate by means of overhead traveling cranes, never go the same way twice, and never cross. The whole plant can be extended to twice

SUPERINTENDENT'S OFFICE overlooks weave room and employee entrance. Back wall of office contains elaborate control panels and boards. The office is sound insulated and constructed to be free from vibration.

SUPPLIES AND FABRICS are stored neatly on the ground floor. A built-in monorail system along the ceiling can be seen.

ENTRANCE to the landscaped grounds crosses a small waterway. Headpiece at start of article shows general view.

SPECIALTY WEAVING

In the Stoffel Lichtensteig plant, as in most Swiss weaving mills, an American visitor will be amazed to see that a different style of fabric is produced on almost every loom. In addition, the goods are mostly yarn-dyed, sheer fabrics with a high standard of quality. This characteristic seems to be fundamentally different from the principle of maximum production at minimum costs. It does show that manufacturers in countries with only very limited home markets have to deal with problems which are not known where almost unlimited demand allows standardized mass production. This condition no doubt increases the costs of production considerably and is a handicap which must be overcome if the modest industry of a small nation is to survive. There is only one answer to the problem: TOP QUALITY.

The fabrics of Stoffel & Co. are known the world over: Stoffel's organdy, Stoffel's handprinted handkerchiefs, chintz, and many other fabrics.

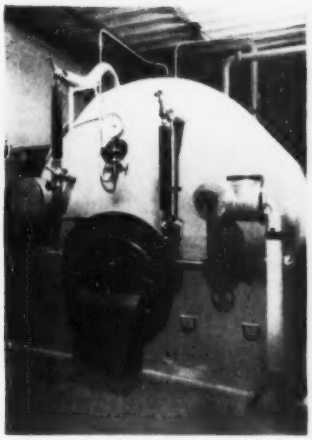
its actual size without changing the present layout.

Supervision of the main weaving room is very easy. The office of the superintendent is situated 10 ft. above the main floor at one end of the plant. From his desk, the superintendent can see the whole main floor as well as the entrance where the workers have to pass and punch their cards. This office is completely sound insulated and, through special construction, free from vibration.

The plant water power comes from a small river which carries irregular quantities of water. It is, therefore, impossible to depend on this power alone. Additional power can be obtained by a shunt connection with the public electrical system. The generator is coupled directly with the turbine. A vertical Kaplan turbine is used and has an automatic guide wheel and blade control giving permanent speed at any possible load. The a.c. generator is directly coupled. Through the shunt connection, it is possible to give all surplus power (nights and Sundays) into the public net. This supply compensates for part of the energy which is drawn from that net during peak loads.

The energy is distributed to the various departments from a central bus bar. The switchboard plant as well as the power generation is all automatic and works without special supervision.

HOT WATER. There are two boilers with a pressure of 142 psi. One of those boilers can be heated with coal only, the other one with coal or with an electric heating element. The capacity of this boiler is big enough to



EITHER COAL OR ELECTRICITY can be used to fire this boiler. Pressure is 142 psi., reduceable to 85 psi. to heat water to 327° F.

CENTRAL DISTRIBUTING BATTERY sends 327° F. water throughout plant. Return water is mixed with high-temperature water to supply special needs for lower-temperature water, such as in heating offices.

take up the whole load. Whenever there is enough water power, it will naturally work on electricity. During these periods, no supervision of the boiler is needed. The boiler feed also is automatic.

From the boilers, the steam passes through an automatic reduction valve which reduces the steam to a constant pressure of 85 psi. In a cascade, the steam is transformed into hot water of 327° F. The hot-water production has an efficiency of 82% if the caloric power of coal or electricity is considered as 100%. Steam is used only when direct steam is necessary for special processes (sizing, etc.). Otherwise, throughout the whole plant, the more efficient hot-water heating system has been adopted.

The main advantages of a hot-water heating system in comparison with steam are: (1) no heat losses during the return of the heat to the boiler house (no condensate, steamtraps, etc.); and (2) possibility of varying the temperatures of every supply pipe according to the actual temperature required at the machine through return water-mixing system.

The hot water coming from the cascade is distributed to the various supply pipes by a central distributing battery.

All the return water is collected into a main return-water pipe. Part of the return water is mixed with the 327° hot water in order to get the different temperatures required for the various departments.

The rest of the return water, which is not used in the mixing valves, flows back into the cascade where it is reheated by the fresh steam. The cas-

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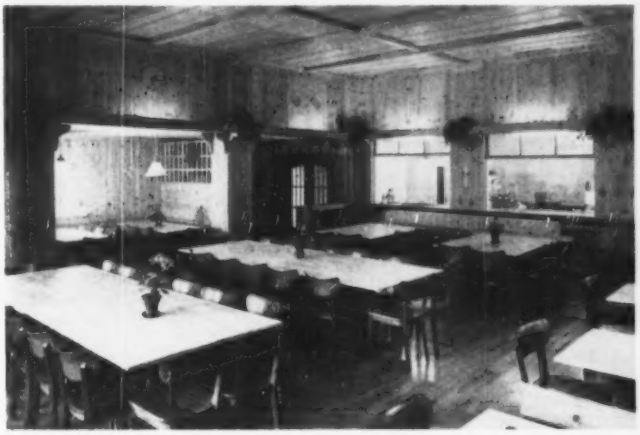


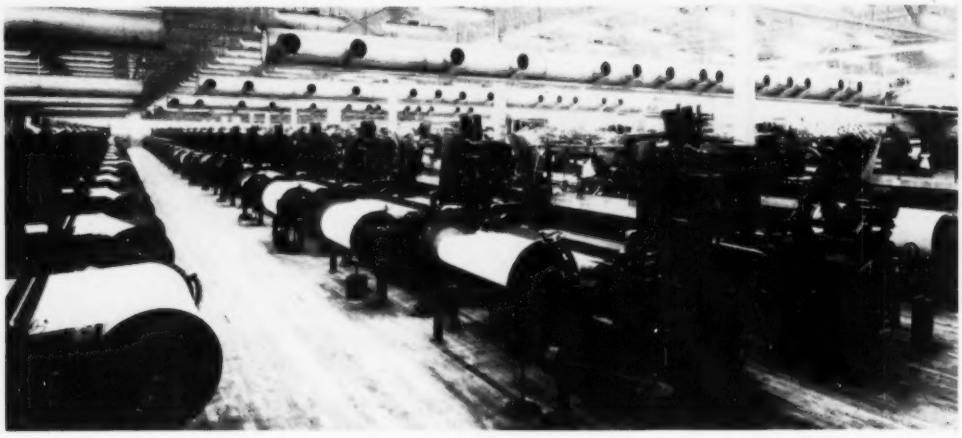
"LIKE A RESORT RESTAURANT" describes the beautiful Staffel canteen. Higher air pressure in the dining area keeps out kitchen odors.

WATERPOWER AND LABOR

Switzerland's textile industry started to develop during the last decades of the nineteenth century with the invention of mechanical spinning and the power loom. One of the main problems was to provide cheap and reliable power. The most convenient solution was to use water power. As technique was not far enough developed to control larger rivers, early textile plants were built on small rivers and brooks which could successfully be used for generating the necessary power.

Another important factor was labor. Switzerland had a surplus of labor in rural areas, such as in the hilly section north of the Alps. There, the surplus labor not used by agriculture had been engaged in hand weaving for many centuries. These people already had a great tradition in the making of textiles.

These two factors, available power and labor, explain why practically the whole Swiss textile industry is scattered in the country, close to the mountains. Even today there are no plants in cities, and the workers still are connected with farm life. Those people maintain their sound character; they are individualists and have a strong and personal belief in high quality.



DUCT WORK permits adding of heating units to humidification system, as well as permits controlling of air flow.

Five Systems Available For Mill HUMIDIFICATION

HIGHLIGHTS: *Evaporative cooling is minimum requirement—Control of air movement essential—Bacteria control being tried—Refrigeration often warranted—3 to 4% increase in production reported.*

By AGNEW H. BAHNSON, Jr.
President, Bahnson Co.

NO LONGER is the textile industry dependent on climate, geographical location, and weather for maximum production. The science of air conditioning has come a long way since the days of soaked floors and steam pots.

A good illustration is to contrast the old definition of industrial air conditioning with the modern. A 25-year-old definition states that air conditioning is a descriptive term applicable to any process for producing prescribed conditions of humidity and temperature in factories; the latest, most widely accepted definition states that it is simultaneous control of all or at least the first three of those factors affecting both the physical and chemical conditions of the atmosphere within any structure. These factors include temperature, humidity, motion, distribution, dust, bacteria, odors, and toxic gases, most of which affect in greater or lesser degree human health or comfort.

One might wonder how air conditioning, or more complete air conditioning could improve plant efficiency and production; and whether the results of such a system would warrant spending the necessary money. Or, what and how much air conditioning a plant should have might be the big question.

To begin with, consider a quick review of what equipment for conditioning there is available to the industry.

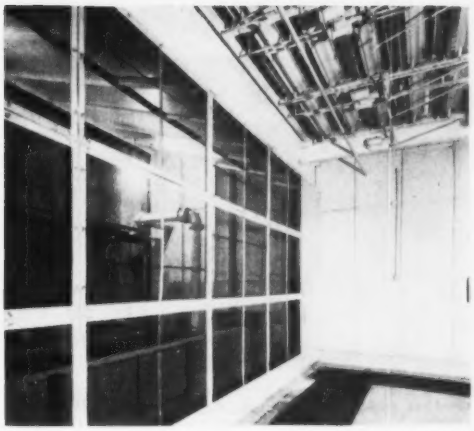
SYSTEM NO. 1. The simplest, most inexpensive method of humidification is direct-air humidification by means of atomizers or centrifugal humidifiers. Compressed air from a central compressor is used in an atomizer system to break up water into a fine spray that can be readily absorbed by the air.

Earlier types of atomizers aspirate the water up to the unit by air pressure, and waste power in doing so. Later types employ water under pressure to effect notable savings in compressed air and provide a new flexibility in capacity. These systems are not air conditioning, according to definition, but will give good humidity control.

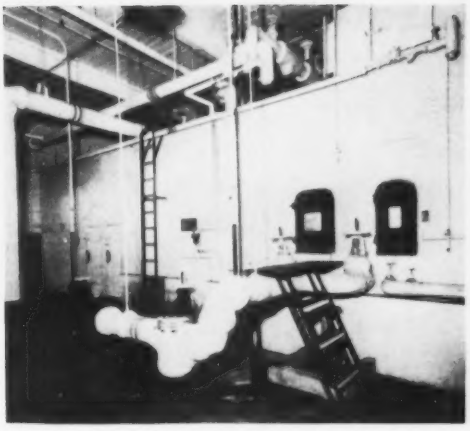
In a system such as described, there is no control of temperature, air motion, air distribution, odors, or toxic gases. Dust or lint in the air will be reduced, however, because less will be generated in processing done in a humidified atmosphere.

A more efficient unit—which is related to the atomizer in humidifying effect but which operates without the use of air compressors, pumps, or other auxiliaries, and which produces air motion—is a self-contained humidifier called the centrifugal humidifier. In addition to controlled humidity and less lint generation, air motion and distribution are obtained. Heating coils for winter operation may be supplied with this type unit if required.

SYSTEM NO. 2. The next method includes the use of window fans in conjunction with the atomizers or self-contained humidifiers. This system will add some temperature control through ventilation. It will provide (1) regulation of humidity, (2) temperature within the range of evaporative cooling, and (3) air distribution to a limited degree. Lint, fly, bacteria,



LOUVRES, overhead, permit automatic mixing of inside and outside air as required.



CENTRAL-STATION SYSTEM normally requires heat for accurate humidity control.

odors, and toxic gases will be lessened through air change.

SYSTEM NO. 3. What might be called an intermediate type of air conditioning, in that additional air-conditioning components can be added as desired, is provided with the introduction of ductwork to the ventilating fan.

Dry air is drawn into the space by the fan and is delivered into the room by a ductwork that gives a much more accurate control of distribution. A separate system of atomizers or centrifugal humidifiers provides humidity control.

The results obtained with a system such as this coincide closely with the results of the preceding system except for better distribution and the comparatively easy adaptation of heating coils (for winter operation) and filters, or air cleaners, which can remove most of the dust or smoke from the air.

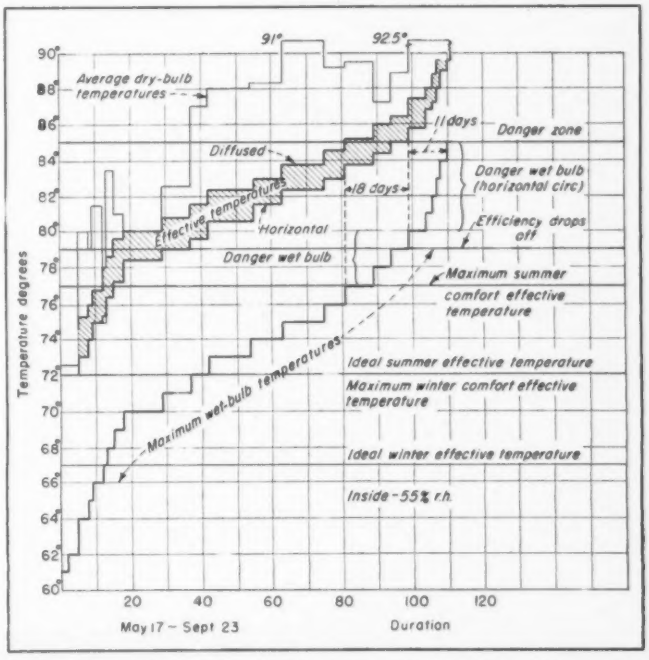
SYSTEM NO. 4. A further step toward complete air conditioning is found in the central-station or self-contained-unit system designed for evaporative cooling and air filtering. Air is passed through a series of sprays and eliminator plates until it becomes saturated with moisture in the central-station application. It is distributed by a large central fan through a system of ductwork to provide a controlled discharge of the air in the space being conditioned.

Atomizers are frequently employed with this system for maintaining humidities of more than 70% to minimize the size of the fan and ductwork that would be required to maintain this high humidity with saturated air alone. Heat is normally required by this type of system for accurate humidity control, although control can be obtained by cutting off the washer pump, by-passing the washer, or restricting the flow of saturated air. Zone control at higher humidities is obtained through the atomizers.

A more efficient approach to the problem is found with the self-contained-unit system that utilizes an axial flow fan in a straight section of ductwork at very low static pressure and brake horsepower. Humidity is produced by a centrifugal evaporator that generates a finely divided spray within the distribution duct itself.

Heat is not required to control humidity in this application, since the

(Continued on page 196)



STUDY in Eastern North Carolina shows there were very few days during which evaporative cooling was not adequate.

SELECT WORKERS . . .

GOOD VISION is a requirement for employment. Fulton Bag has given more than 3,000 of these Ortho-Rater tests. Test results influence hiring and job placement.

JOB TRAINING, when done by an experienced worker, as shown here, is closely followed by the supervisors and the personnel department. Task assignment is increased gradually.

WORKER SERVICES
Pay Mill and Employee

HIGHLIGHTS: *Better workers with better health is the aim of Fulton Bag & Cotton Mills—Results: Accidents and labor turnover reduced—Eyes and feet given special attention.*

By E. DALTON WHITE
McGraw-Hill Atlanta Bureau

Fulton Bag & Cotton Mills, Atlanta, Ga., has provided worker services and facilities in a fashion that is a credit to management and a benefit to the welfare of its employees.

Results, both to the mill and the employees, have been pleasing. To cite a few: Lost-time accidents during 1948 were 27% lower than the year before. Labor turnover has been low —3.9% per month last year. Less than 20% of the separations are among employees with more than one year of service, and very few workers leave after five years of service.

Of more than 2,000 employees in the Atlanta mill, 122 have a record of 25 years or more of service, 454 have ten years or more, and 862 have five years or more.

Each new applicant must meet rigid physical and vision requirements. More than 3,000 individuals have been tested on the Ortho-Rater since the start of the vision-testing program. Of this number, more than 500 have been applicants for employment. Of the employees given the test, about 1,000 were found to be in need of some sort of visual attention, and 600 were referred to specialists for examination and correction.

NEW EMPLOYEES. An orientation program has been worked out for new employees. After he is made to "feel at home," he is introduced to the overseer and then to the second hand for job explanation and familiarization. Fulton Bag exercises great care to make the new employee feel at ease in his new surroundings and on his new job. Instructions are thorough and continue until proficiency is reached.

The mill has a long-standing policy that there is always present the opportunity for advancement. Inside promotion is the rule rather than the exception; over 90% of the supervisory personnel came up through the ranks. Every assistance is given for promotion to a better job.

The mill has found that this type of on-the-job, or "absorption," training enables an employee to develop skill at a faster rate. While it may take two weeks for a "green" battery-hand to develop a high degree of skill, it has been accomplished in three days.

During the training period, the rate of increase in the work load is in proportion to the skill acquired until the standard load is reached. Employee confidence is developed from the start by the trainer pointing out certain tasks that can be done without the operator watching every movement of his hands.

SUPERVISOR TRAINING. Supervisory personnel is given intensive training under the direction of Harold Rogers, industrial engineer. The objective is to eliminate employee problems before they become acute. This program has been so effective that practically all worker problems are settled at the second-hand levels; a few reach the overseer level. Seldom does one go as far as the superintendent, although he is always available.

There is close cooperation between supervisory personnel and the personnel department. The personnel division processes all applicants and maintains personal contact with each employee through the many welfare activities and services under its direction.

Effectiveness of the over-all employee program is seen in the relatively low labor turnover. In view of the fact that the mill is located in a

. . . THEN TAKE CARE OF THEM

CHIEF PROBLEM SOLVER, Troy B. Stone, director of personnel, is always available to new or old employees. His origination of the foot clinic has helped hundreds of workers.

ACHING FEET don't last long at Fulton Bag. The decrease in job fatigue has been astounding since the foot clinic was started. Cost of treatment to employees: nothing.

highly industrialized area and that there are several other mills in the vicinity, the turnover figure is impressive.

The record for the last 18 months is as follows:

	June 15, 1947 through Dec. 14, 1947	Dec. 15, 1947 through June 14, 1948	June 15, 1948 through Dec. 14, 1948
Average on payroll	2166	2123	2077
Total accessions	607	503	484
Total separations	751	496	494
Average turnover (% per month)	4.7	4.0	3.9
Total interviews	2104	2255	2814

Many of the separations were due to the critical housing shortage in and near the city. Also both the influx of new industries and the fact that during the war and postwar years many workers were temporarily attracted to the textile industry have accounted for many terminations.

Fulton Bag believes that its employment record is due in part to the many welfare services and facilities provided its employees and in part to good working conditions.

HEALTH PROGRAM. An outstanding health, dental, and medical program for employees is in operation. It has meant much to employees in better health and increased individual efficiency and earning capacity.

It is with justifiable pride that the mill points to its day nursery and medical clinic, named in honor of Jacob Elsas, founder of the company. The clinic is equipped with a first-aid room, examination and treatment rooms, drug department, and other facilities. All medicines and materials are provided employees at cost.

In March, 1947, the mill pioneered the first industrial foot clinic in the

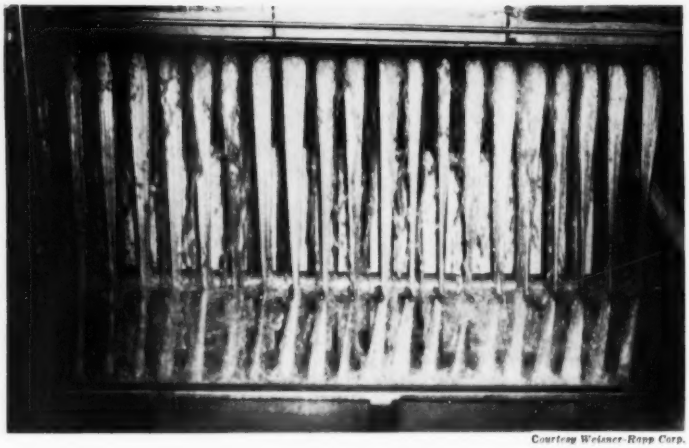
(Continued on page 204)

DON'T FORGET THE CHILDREN . . .

MEDICAL AND DENTAL treatment is waiting for the families of workers. Medical supplies are dispensed at cost. Professional services are given free.

SORE FINGERS are treated in the clinic by a graduate nurse. If mother is working, she doesn't have to leave her job to go home and fix up the finger.

EATING TIME at the day nursery. Youngsters are kept, entertained, treated (if they need it), and fed. Cost to the employees: 10c per child per day.



Courtesy Weisner-Rapp Corp.

WASHING Systems Greatly Improved

HIGHLIGHTS: *New techniques stem from continuous-bleaching advances —High-speed operation requires close chemical control—Raw full-strength chemicals being fed—Washers should remove alkali down to 1/10 of 1% to weight of goods—New machines in use.*

By D. STEWART QUERN

CONTINUOUS BLEACHING is a development in textile finishing that has helped, in turn, to introduce improved washing and chemical-feed equipment.

For years, quantity processing of bleached goods employed kiers for boiling or scouring of goods, with no greater variations from batch to batch *than those involved in length of time* of boil, slight variations in alkali formula or pounds pressure in the kier boil, and other minor details. Washers were generally log-roll tight-strand type, or, if the class goods required it, reel-type slack washers.

Chemical mixing followed the simple procedure of mixing caustic soda *and/or other alkali in an iron mixing tank; a prescribed twaddle was used* for each mix; and the necessary gallons *in the mixing tank were frequently* determined by filling the tank up to a certain mark or rivet on the side, or perhaps by inserting a long stick with a pencil line on it.

Furthermore, until continuous bleaching entered the picture, bleachery washing was simple in that it was generally based on the assumption that satisfactory results must surely be achieved, provided that enough volume of water and a sufficient number of strands of cloth were run through each washer.

Enough water generally meant opening the water line wide. The size of this line depended on what someone in the past thought was large enough.

The number of the strands of *cloth in each washer was frequently decided by the washer hand estimating* how many he had time to string up following the last breakout; or, indeed, *it might depend on how many pegs* separating the strands remained unbroken.

HOW MUCH WATER? Many times over the years, the writer has inquired in different bleacheries how much water was being used through the washers. The most frequent reaction was to send for someone else who didn't know either, or to go over to a washer in operation, regard it studiously for a moment, and then make an estimate. Exceptions were found when the plant happened to be located in a large city and bought water from the city water works.

The foregoing remarks are not made with the intention of casting reflection upon operations formerly carried on, and still being carried on quite widely. Much high-quality work has been produced under conditions similar to those described, and continues to be produced this way. Continuous bleaching, however, with the high-speed production involved absolutely requires close attention to the *washing and chemical-control operations.*

It is in order at this point to note the different types of continuous-bleaching ranges now being used and installed. These include the all-rope *J-box ranges; combination-type rope J-box with open-width saturation and* washing; J-box ranges, open width throughout; conveyor-steamer ranges, *open width throughout; and one installation entirely open width, using* steamers containing scrays or slides with rollers for helping the progress of the cloth.

In both the caustic-soda scouring steamer and the peroxide steamer, the cloth enters the steamer through the bottom scray and ascends through superimposed scrays until it leaves the

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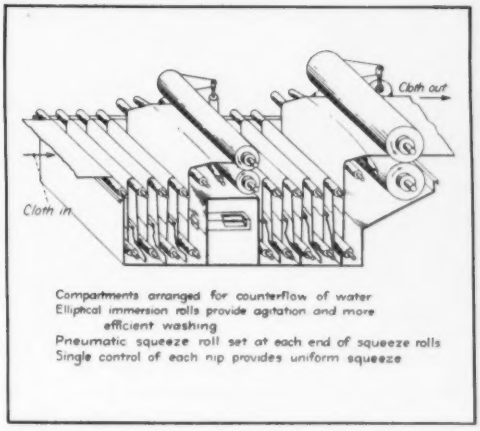
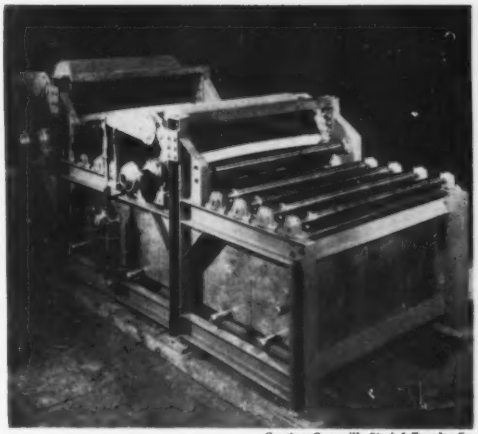
Mr. Quern is the southern sales manager for Becco Sales Corp., Charlotte, N. C.


Cloth out
Cloth in
Compartments arranged for counterflow of water
Elliptical immersion rolls provide agitation and more efficient washing
Pneumatic squeeze roll set at each end of squeeze rolls
Single control of each nip provides uniform squeeze



Courtesy Greenville Steel & Foundry Co.

***OPEN COMPARTMENT WASHER**, shown in drawing and picture, has double section for open-width goods. It features counterflow of liquor and has elliptical immersion rolls to provide agitation. Squeeze rolls are pneumatic.*

steamer from the top scray. Auxiliary equipment is similar to that used in other open-width ranges.

All these ranges have certain fundamentals in common. Goods are brought to the continuous ranges, and chemicals are applied at controlled rate and quantity. Goods are steamed for a predetermined length of time with a controlled quantity of steam. Then, whether J-box or steamer is used, the residual chemicals, together with converted waxes, pectin matter, and loose and dissolved impurities, must be removed from the cloth.

CHEMICAL FEED. The chemicals for scouring and bleaching are delivered to the saturators from mixing tanks (sometimes referred to as "head tanks") and from proportioning pumps, and flowrator or rotameter devices. The introduction of the systems for feeding the raw, full-strength chemicals to the saturators represents one of the most interesting developments *concurrent with continuous bleaching.* Mixing tanks were used with the earliest continuous-bleaching ranges and are still being used and considered perfectly adequate for many installations.

However, proponents of the system of feeding full-strength chemicals to *the saturators through proportioning pumps, for example, point out that chemical deterioration is avoided by this method, and that there is a saving in time, space, and labor. When proportioning pumps are used, the settings* (strokes per minute and length stroke) are arranged for a feed of the necessary volume of the liquid chemicals per minute, based on the pounds of cloth per minute passing through the saturator. The pumps in use at present can be classified as diaphragm and piston pumps. Whatever the type equipment used for chemical feeding, the pipes conducting the chemicals to the saturators from the pumps should be arranged so that there is no possibility of bringing concentrated, undiluted chemicals in contact with the cloth.

While there is considerable agitation of solution in a continuous-bleaching-range saturator, particularly when incorporated in a high-speed rope range, there are some instances in which these saturator solutions are circulated around through outside tanks, thus further assuring the even distribution of the chemicals through the solution. In these cases, it may be found that the concentrated chemical feed is introduced outside the saturator itself.

It must also be pointed out that proportioning pumps or flowrators for feeding liquid full-strength chemicals to the saturators are usually supplied by measuring tanks of 30- to 60-gal *capacity, generally elevated above the* saturators; and, in turn, they draw their own supplies from the main storage tanks. These measuring tanks provide a simple means for keeping inventory and a check on chemical consumption. It should also be stated *for the record that 2-5 aluminum is preferred for piping to the peroxide saturator, peroxide pump, etc.*

REMOVING CHEMICALS. It can be *seen from the foregoing discussion* that the efficient application of chemicals to the cloth through the saturator is most important. Equally important is the removal of residual chemicals and impurities from the cloth after the alkali steaming and peroxide steaming.

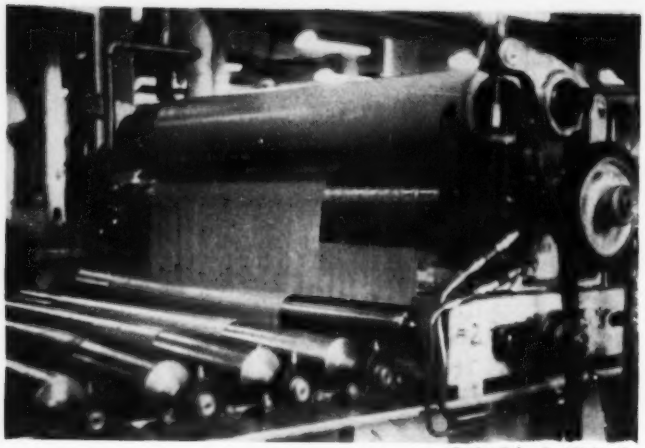
For all white goods which are treated with caustic soda in the first J-box, residual alkali and impurities must be removed before the goods enter the peroxide saturator. While cloth processed either through the continuous ranges or kiers may be scoured in both cases with the same approximate amounts of alkali, the ratio of solution to cloth in the kier will be about four or five to one against one to one or less in continuous-bleaching steaming operations.

Whatever the washer employed, the objective of the washer or washers following caustic steaming is complete removal of residual alkali and impurities; and, generally, the washers should perform in such a manner that residual alkali expressed as caustic soda is down to one 1/10 of 1% or less, based on the weight of the goods.

Inasmuch as it is sometimes found advisable to add small amounts of caustic soda to the hydrogen-peroxide saturator in order to hold the alkali *titer at a predetermined level, it may* be asked why caustic soda carried over through the washer should not perform this function. The answer is that caustic soda carried over to the hydrogen-peroxide saturator indicates that the cloth also carries over other *impurities, and that the washing is inefficient for peroxide.*

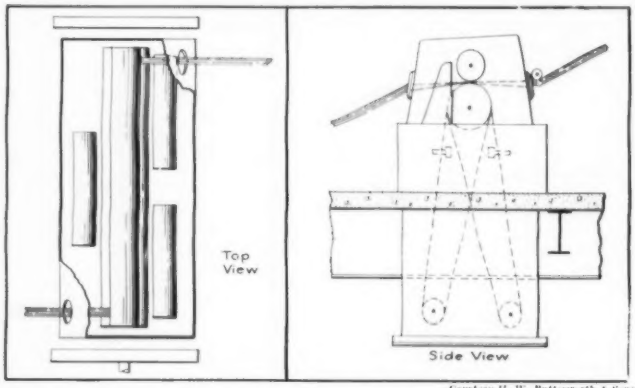
Incomplete alkali removal, resulting in alkali build-up in the hydrogen-peroxide saturator and inefficiency of the chemical solution, will result in unnecessary amounts of hydrogen peroxide being added to maintain a strength needlessly deteriorated by alkali carryover.

BETTER WASHERS. The stress which continuous bleaching has placed on



Courtesy Rodney Hunt Machine Co.

TENSIONLESS WASHING is feature of this 5-box open-width Tensitrol machine.



Courtesy H. W. Butterworth & Sons

MODERN WASHER sketched has one top and three bottom rolls. It is a tight-strand type, built of stainless steel for high speeds. Side view shows threading.

efficient washing has resulted in improved compartment-type tight-strand washers for rope operations; slack-rope counter-current washers improved from standpoint of speed; tension-controlled washers, operating on rope ranges and also available for open-width work; Williams machines used as open-width washers; and open-width box washers of improved efficiency.

For ranges of J-box capacities allowing for speeds up to 300 yd. per min. or more of cloth suitable for running at high speeds, tight-strand washers are being used and installed; and the tension-controlled washers (known as Tensitrol) are being installed on some ranges of this type.

The tight-strand rope washers used are variable to the extent that some are made with three compartments, each with a single bottom roll, and with water flow counter current to the goods running through the compartments. Other tight-strand washers employ the single bottom roll with the water flow counter current to the cloth.

Both types will vary in that some are equipped with two top rolls for a squeezing effect on each strand, while others have only a single top roll. The cloth being processed and plant requirements affect such specifications. High-speed ranges with tight-strand rope washers are equipped as follows: one tight-strand gray washer, two such washers between the first or alkali steaming J-box and the hydrogen-peroxide saturator, and two washers between the peroxide J-box and the white bins. There are others equipped with one tight-strand gray washer, one washer between the caustic soda steaming J-box, and one washer after the peroxide J-box. There are variables involved such as the type of goods being processed and the temperature of the wash water.

VERSATILE MACHINE. The tension controlled washers (Tensitrol), where they are being installed, are laid out similarly to the tight-strand washers for the same type of goods. These washers employ a spool principle, carrying the goods along the front side of the washer and then conveying the cloth to the back side of the washer where the cloth passes over the same number of spools mounted on the top. By adjusting the stainless-steel pin rails on this machine, it can be converted from a tensionless machine to a tight-strand machine. It is reported that its introduction to continuous-bleaching ranges is based on previous operation in woolen and rayon plants.

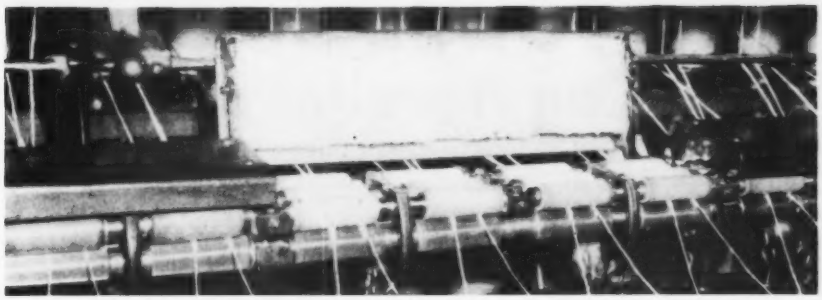
The slack-type rope washers with compartments and counter-current flow are generally of an improved type, incorporating among other things potentially greater speeds than heretofore without loss of efficiency, high efficiency in water consumption, and other features. This type washer is now found on continuous-bleaching ranges processing towels and other fabrics and is usually laid out with one gray washer, one washer following the first J-box steaming and one white washer.

Williams machines, incorporated in continuous ranges, claim a high degree of washing efficiency with low water consumption, based on turbulence in the machine and rapid change-over of the small volume of water contained in the machine. Open-box washers for open-width ranges are being introduced with improved design. One conveyor-steamer installation operates with box washers conveniently equipped with elliptical bottom rolls which have been installed with the object of increasing agitation in the wash water.

HOT WATER. In all of these washers, the use of hot water to obtain the clean conditions required for peroxide saturation is most desirable. For washing out caustic soda, the emphasis is more on temperature, rather than on volume of water, although there is a minimum for the latter that exists in each case. When hot water is being used, however, flow control as well as temperature control should be installed for economic reasons. Heat exchangers are also in use, and the matter of piping back hot water from white washers to washers out of the caustic soda J-box is one that offers opportunity for saving hot water.

Temperature and volume of water

(*Continued on page 204*)



GROOVING of top rolls caused by dwell of roving traverse change points is eliminated at the Ridge plant of Textiles, Inc., by means of new traverse motion.

Combed-Yarn Mill Stops TOP-ROLL DAMAGE

HIGHLIGHTS: *Textiles, Inc., Gastonia, N. C., eliminates grooves on top rolls with new roving traverse that varies reversing position—Motion actuated by eccentric cam fastened to carriage lifter shaft—Stroke adjustable by setscrew.*

By L. J. WILLIAMS

RIDGE PLANT OF TEXTILES, INC., Gastonia, N. C., prevents top-roll grooving on roving frames by means of a new roving traverse installed on all roving frames in the mill. The traverse motion gives a great variety of positions for reversing the traverse of roving on the rolls. Groove-cutting near the edge of each side of the cots is reported eliminated.

Elimination of the same position for the traverse reverse has long been a desired factor of roll performance on the roving frame. Conventional off-center motions are operated by gears on the end of the drafting rolls. While the motion is a gradual left-to-right and right-to-left traverse for the roving as it moves to the drafting rolls, it never varies the position where it changes the traverse. At Textiles, Inc., the dwell at this change point, and the continued reversing of the traverse at the same point caused grooves on the top rolls regardless of the type covering used as cots. The new motion produces a wide variety of reverse postions for the traverse. It can be reversed near the edge, in the middle, one-third across the cot, one-fourth across, or two-thirds across, etc. Seldom does the traverse reverse itself in the same position consecutively.

The motion consists mainly of an eccentric cam fastened to the carriage lifter shaft. The cam actuates another shaft that is attached to a lever. The lever is pivoted to the roll beam on one end and setscrewed to the traverse bar at the other. As the carriage lifter shaft revolves, the cam turns and pushes the upright shaft up and down. This also gives a vertical motion to the short lever that is attached to the roll beam and to the traverse bar.

This movement imparts a right-to-left and left-to-right traverse to the bar. But, due to the reversing action of the lifter shaft, the movement is varied. The lifter shaft, after the completion of the carriage's upward or downward motion, is caused by the frame builder to reverse its motion. This reversal of motion may occur when the roving position is at almost any point of the top roll.

The roving traverse may have the roving in the middle of the roll, or one-third, or two-thirds across, etc., at the time when the carriage lifter shaft is reversed by the builder. As the eccentric cam is fastened to the carriage lifter shaft, the motion of the latter becomes the motion of the cam and of the subsequent parts of the new traverse mechanism.

The two changes of the eccentric cam itself and the varied changes that result from a carriage change produce a variety of reversing positions on the top rolls, with desirable effects from the standpoint of quality and maintenance.

ADJUSTABLE STROKE. The length of the traverse stroke is adjustable. A setscrew is set on the short lever that is expandable and is attached to both pinion lever and cam-actuated shaft. By letting out the setscrew and expanding the opening, fixers can obtain a greater length of stroke from the traverse bar. By closing the expansion, they obtain a shorter stroke of the bar.

The traverse is simply constructed and requires little maintenance. There are no settings other that those for length of stroke.

The traverse mechanism is oiled once a week; and no further attention is necessary until some parts wear out due to long use. No strain is apparent in the parts during operation of the traverse, according to E. M. Sparks, overseer of carding and spinning.

FOR OLDER FRAMES

The method used at Textiles, Inc., as described in this article, to vary the roving-frame traverse may be useful to mills operating old frames. New roving frames of the major machinery manufacturers have for some years been equipped with a device which varies the traverse length and eliminates roll grooving.—Editor.

TERRY-TOWEL BORDERS
Can Have Infinite Variety

HIGHLIGHTS: *Simple cord effect is easily produced—Elaborate patterns are possible with ratine yarn—Rich effects can be achieved by appearance of silvery loops.*

By T. HARGREAVES

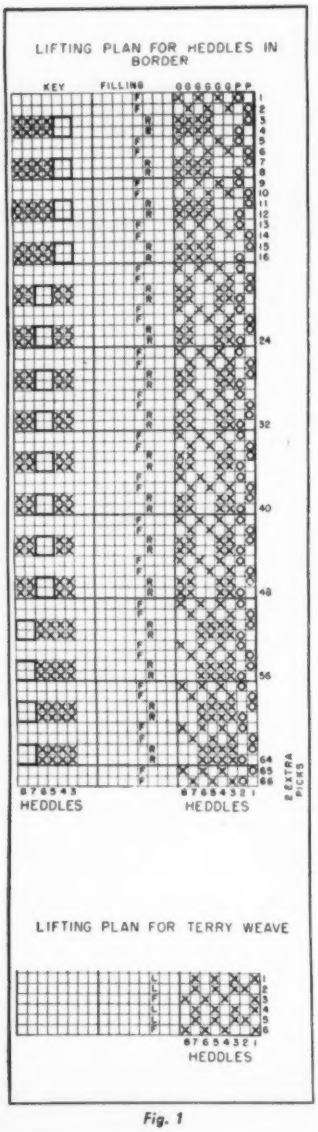


Fig. 1

MANY TYPES of borders are used in adorning terry towels. The key weaves, the drafting of the pile and ground yarns, and the lifting plan for the heddles involved in weaving such borders are described in this article. The terry weave in the example is ordinary plain terry. The lifting plan for the terry body and the arrangement of the box indicator chain are not covered in this article. [See T.W. June, Aug., Dec., 1946].

The design in Fig. 1 involves a diagonal cord body utilized in the border. This border is produced by using 2/24s mercerized filling and may be of the same color as the pile warp, or a contrasting color, or white, to suit the designer. In this towel, both sides will have the same color of terry.

Two shuttle boxes must be operated, one for the terry weave and one for the diagonal cord border. In transferring the key weaves to the lifting or pegging plan, each pick of both back and face weaves must be doubled. The diagonal cord should occupy a space of ¾ in. for the 120 picks, and the take-up gears will need retarding in order to cram the 120 picks into a ¾-in. space. The cord will show equally on both sides of the towel.

RATINE BORDER. The design elaborated in Figs. 2, 3, 4, and 5 may be used for the special type border often employed in the adornment of the highest-quality terry towels. The body or terry portion of these towels is usually in solid color, but the border appears to be made of silvery loops. These silvery loops are produced by the filling and not by the pile warp. To the untrained eye, the weave appears very complicated. Analysis discloses that it is really a simple weave which gains its effect by use of a fancy-twist filling yarn of the ratine class which may embody both cotton and rayon. The rayon is looped around and held in the twist of two fine cotton yarns and locked in position by another superimposed yarn. The whole effect is that of a spiral or cork-

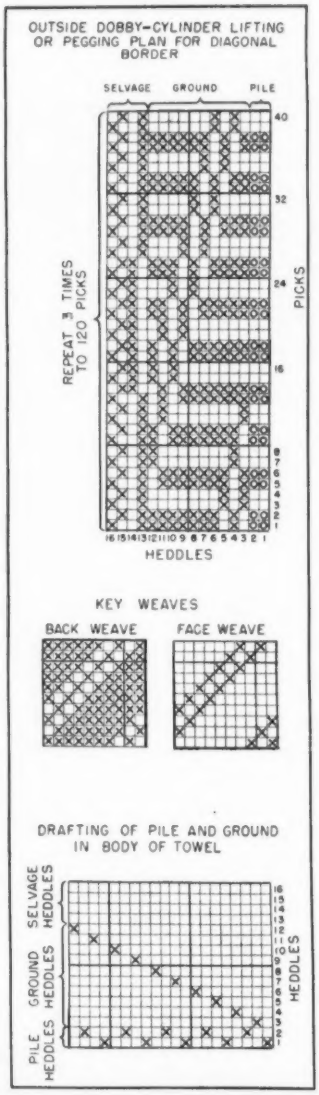


Fig. 5

screw yarn which produces silvery loops on the plain cloth in the borders of the towel.

To gain the full benefit of such a fancy and expensive yarn, a special weave is introduced, as is shown in Fig. 2. Two filling yarns are used in this weave and two picks of each are inserted alternately. One of these yarns is 1/16s cotton; the other is the ratine which will average about a 3s count. When the fine filling is being woven, the weave is plain except that two threads (one pile, one ground) work together. When the ratine is being woven, the weave is such that the ratine floats over three ends and under one, to show the pattern on the face, and under three ends and over one when the pattern shows on the underside. The pile warp acts as a binder for this ratine filling, while the ground warp threads are left down for the face pattern and lifted to show the pattern on the underside. The basic weave is shown in two parts, one for the pattern on the face and the other for the pattern on the back. Where the ratine figure shows on the face, the underside will appear plain. Where the ratine figure shows on the back, the face will appear plain.

Although the figured effect is often elaborate, in the example used to illustrate the application of this weave the figure is simple. This figure is given in Fig. 3. It repeats on 20 squares across and 16 squares down. Each horizontal line of squares represents four filling picks (two fine and two ratine). Each vertical line of squares

(Continued on page 210)

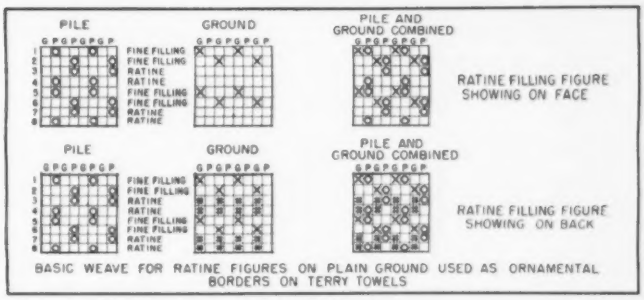


Fig 2.

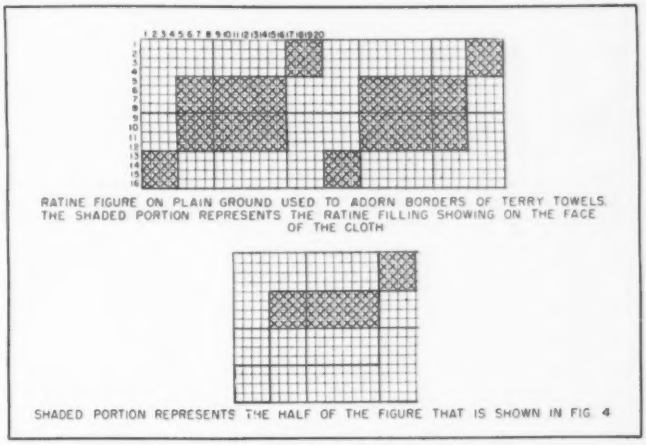

RATINE FIGURE ON PLAIN GROUND USED TO ADORN BORDERS OF TERRY TOWELS. THE SHADED PORTION REPRESENTS THE RATINE FILLING SHOWING ON THE FACE OF THE CLOTH
SHADED PORTION REPRESENTS THE HALF OF THE FIGURE THAT IS SHOWN IN FIG. 4

Fig. 3

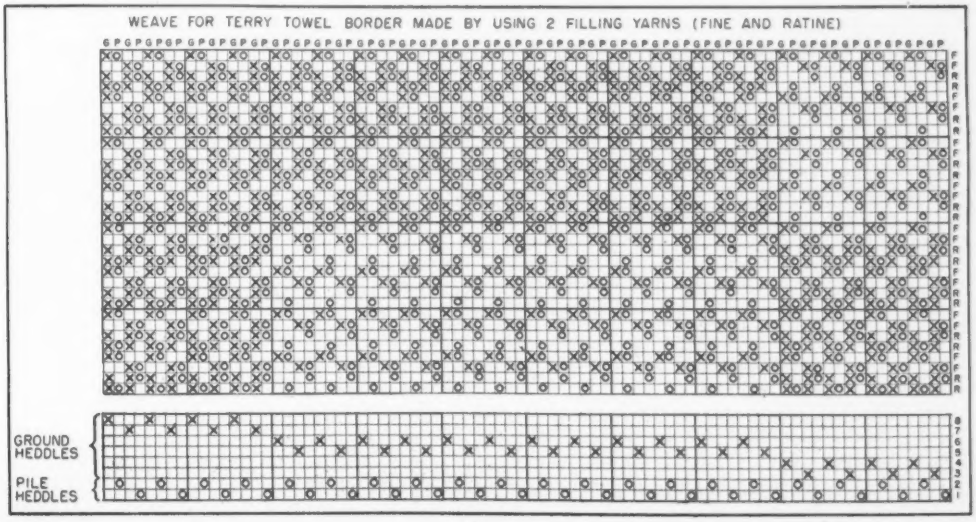


Fig. 4

RIEGEL'S EQUIPMENT includes (left to right) a sorter, collator, interpreter, and a multiplier.

Punched-Card System Speeds ACCOUNTING

HIGHLIGHTS: *Punched-card accounting at Trion Div., Riegel Textile Corp., speeds payroll computation, helps insure accuracy—Labor and time reduced in compiling reports based on employee data—System used to maintain raw-cotton-inventory records.*

By JOHN R. ADAMSON
Controller and Assistant Treasurer, Riegel Textile Corp.

MODERNIZATION OF EQUIPMENT at the Trion, Ga., division of Riegel Textile Corp. includes improved tabulating and accounting systems as well as efficient production machinery.

Punched-card accounting methods have proved their value at Trion in three major respects: (1) they have contributed to the efficiency of the accounting department and to interdepartmental cooperation; (2) they have saved time and manpower; (3) they have enabled the increasing number of items of record for payroll and other purposes to be controlled accurately.

The pattern of management at Trion has always emphasized smooth operation throughout the plant and offices. One important way the accounting department can contribute to good relations between management and employees is to pay accurately and promptly. With an ever-widening volume of facts needed for computing earnings and making deductions, top-notch efficiency in the accounting and payroll departments is a necessity in order to pay promptly. Punched-card accounting has supplied this efficiency.

Similarly, interdepartmental cooperation at Trion requires summary information, in addition to the payroll facts available in individual records. Punched-card accounting makes it possible to provide necessary facts without unreasonable delay and therefore helps the accounting department make its contribution to cooperation between departments.

The postwar manpower shortage was one factor considered in installing time-saving office equipment at Trion. The decision to install the special equipment provided by International Business Machines Corp. was made in order to accumulate more detailed information than was done formerly and in order to complete payrolls with the minimum expenditure of manhours. These manhours, saved in a period of shortage, were valuable to the company for other work.

Some of the information, the accumulation of which required many hours of preparation prior to the installation of the business machines, was: social security reports; W-2 withholding forms; labor-turnover reports; group-insurance reports; departmental reports of earnings; statistical reports for government agencies; and various other reports requiring classification of employees into such groups as age, sex, marital status, etc.

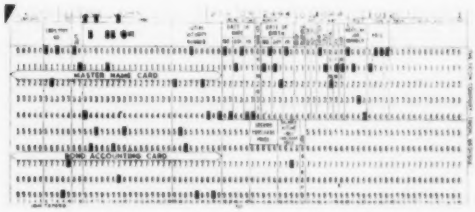
The number of items on which accurate information can be readily obtained through the punched-card system seems to be always on the increase. Even in 1945, data were needed on length of service, age, marital status, and many other personal items, as well as data required for calculating the payroll.

Prior to 1945, two key-punch machines, one electric accounting machine, one sorting machine, and one automatic reproducer were used. The automatic reproducer was replaced with a newer and different type, and one accounting machine was added. One key punch, one alphabetic interpreter, one multiplying punch machine, one collator, and one transfer posting machine were also added.

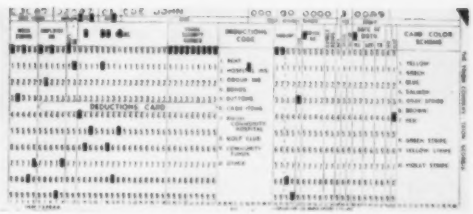
With this complement of machines there is almost unlimited flexibility as to character of information compilable, and it is usually available quickly. Work at Trion is done mostly on a piece-rate basis.

The total number of employees is

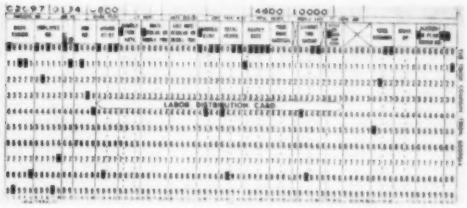
HOW JOHN DOE'S PAY IS MADE UP AT TRION



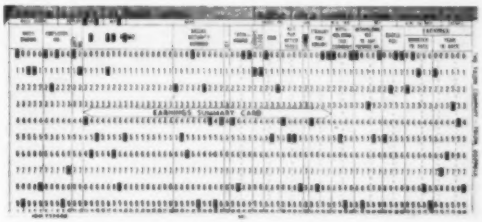
1 *BASIC DATA are recorded on master name card which can be used for compilation of any information based on personal data. This card contains such information as name, employee number, social security number, withholding-tax exemption, rate of pay, etc.*



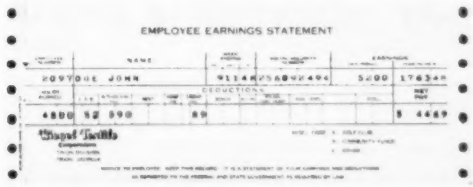
2 *THE DEDUCTIONS CARD is punched with all deductions required by law as well as those authorized by the employee. Both this and the master name card are punched only once and can be used until a change in data occurs.*



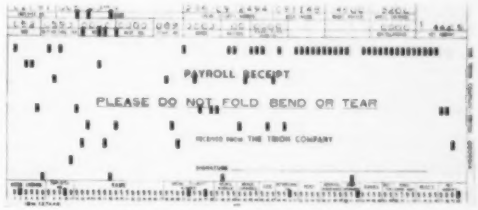
3 *THE LABOR-DISTRIBUTION CARD, the only card punched manually each week for each worker, contains information on pay rate, overtime, amounts of hourly paid time and piece work. Cards for all workers provide valuable cost information. In payroll work, card is used to compute gross pay.*



4 *EARNINGS-SUMMARY CARD is produced automatically by collating master name cards with labor-distribution card. This card provides for all data and deductions except those pertaining to local deductions.*



5 *EARNINGS STATEMENT is automatically produced by collating earnings-summary cards with deductions card. Statement is attached to pay envelope which is given to worker.*



6 *PAYROLL RECEIPT is automatically produced at same time as pay statement. Receipt is used to obtain worker's signature when pay envelope is delivered.*

some 4,100, with 3,900 of these on a piece-rate basis.

PAYROLL COMPILATION. On the master name card complete information is recorded concerning name, employee number, social security number, date of hiring, date of birth, group life insurance, group hospital insurance, withholding-tax exemption, marital status, sex, race, job-assignment number, rate of pay.

The deduction card provides for all deductions required by law as well as local deductions authorized by the employee himself, such as rent, purchase of war bonds, golf-club dues, etc.

Another card, the labor-distribution card, is used for figuring gross pay. It is used for both hourly rated and piece-rated employees, and segregates straight time and overtime. An individual card is punched for each job number, permitting gathering of information on labor distribution without manual recapping. Hours or pieces, segregated between straight and overtime; rate of pay; and job number are manually punched in this card. From this information gross pay is then computed by running the card through the multiplying punch machine. This card is also used in computing and make-up necessary to bring learners' wages up to the required minimum. This

(Continued on page 206)

TRION'S OTHER USES FOR PUNCHED-CARD ACCOUNTING

Production of information and reports of all types based on data about workers. Such reports are seniority lists, reports of family status, listing of workers by age, etc.

Labor-distribution reports for industrial-engineering department.

Making invoices and writing checks.

Keeping raw-cotton inventory.

Records on production, inventory, and sales of Riegel's glove plant.

J. C. EDWARDS, JR., superintendent, Exposition Cotton Mills, Atlanta, general chairman, presided at the spring meeting of the Textile Operating Executives of Georgia.

Continuous Card Strippers

Advantages

1. Increased card production.
2. Lower nep count.
3. More uniform sliver.
4. Fewer card strips.
5. Lower grade of strips.
6. Shorter fiber in fly waste.

Disadvantages

1. "Snowballing" at web selvages.
2. Possible damage to clothing.

Maintenance Notes

1. If enough strippers are in operation, assign them to a special maintenance man.
2. Keep traverse housing tight.
3. Check cards daily for signs of stripper trouble.
4. Check condition every six weeks and make necessary repairs.
5. Overhaul strippers every three months.
6. Replace bars with worn or broken needles.

Operation Pointers

1. Run strippers at about 25% greater surface speed than the cylinder.
2. Keep all belts tight and clean.
3. Keep grease and dirt cleaned off ends of strippers.
4. Do not set strippers too deeply into card clothing.

CARDING PRACTICES
Studied by Georgia Men

HIGHLIGHTS: *One-shot lubrication of pickers saves one mill $800 a year—Continuous strippers usually reduce card-strip waste—Fast carding causes neps.*

B. W. WHORTON, vice president, The Dixie Cotton Mills, LaGrange, member of the executive committee, led the discussion on carding.

ONE-SHOT LUBRICATION of picker calender sections saves one Georgia mill $800 a year on labor. Savings on maintenance, not given in dollars, are almost as impressive. The calender sections formerly were overhauled every three months; now they have been running three years without an overhaul job. Only six or seven breakdowns have occurred in the three years.

These results were given by the mill for the spring meeting of the Textile Operating Executives of Georgia.

Ten questions on carding and ten on spinning, contributed by mill men, were sent to all Georgia mills. Prior to the meeting, written answers were received from 35 mills and mill groups; and the same questions were discussed at the meeting in Atlanta.

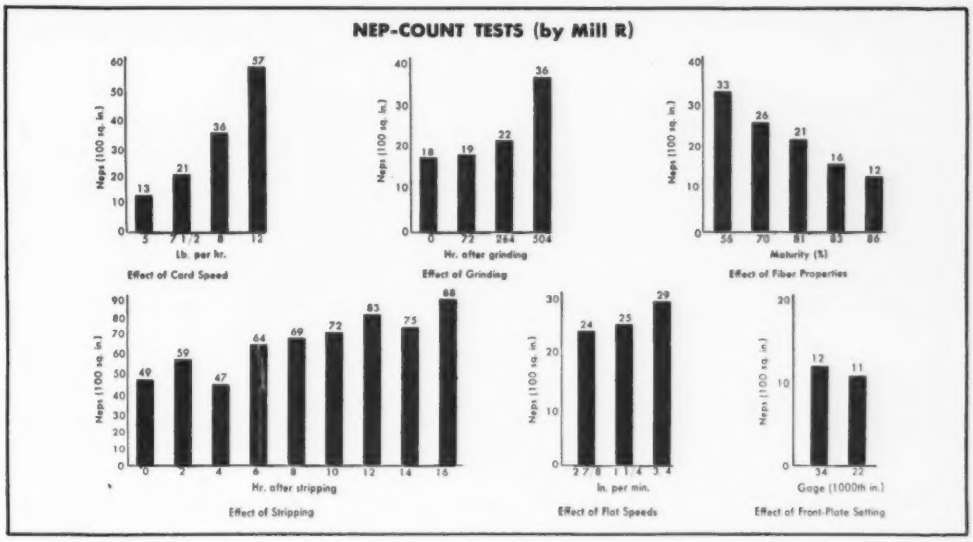
The written answers to the carding questions are condensed here for easy reading. A similar report on the spinning questions will appear in an early issue.

The mill that saves $800 a year, identified as Mill O, reported that it uses the one-shot lubrication system on the smooth and fluted calender rolls. Pickers operate three shifts five days a week. They are lubricated once a week.

ONE-SHOT OILING. Mill A wrote: "On the small ball bearings, we use two shots every 160 hr.; and on the large ball bearings, five shots every 160 hr. Plain picker bearings have an Alemite connection; they receive from two to five shots every 80 hr., depending on the size of the bearing. The plain, open bearings on hoppers are oiled once every 16 hr. We see no difference in the cycle of overhauling with the plain and the ball bearings."

Mill R wrote: "We do not use this system of lubrication. We tried it on one picker but found that it was necessary to re-cut and re-fit the tubing every time the picker was overhauled; otherwise, the tubing became bent and cut off the lubricant."

Thirty-five mills answered the second question, which asked for data on the types and speeds of picker beaters. Practices were different in all of the mills. About half of them use pickers with two beater sections, and the others use pickers with three beater sections. From the reports, there seemed to be no relationship be-



tween beater speeds and the number of beaters, grade and staple length of cotton, or lap weight.

For example, beater speeds in the breaker sections ranged from a low of 480 rpm. to a high of 1,400 rpm. In the intermediate sections, they ranged from 872 rpm. to 1,400 rpm. The Kirschner beater, used in the finisher section by 32 of the 35 mills, ranged from 500 rpm. to 1,400 rpm.

CARD STRIPS. The amount of card flat strips was reduced at Mill R by the use of continuous strippers. Before the strippers were installed, flat strips amounted to 1.77%. Now they amount to 1.55%. Fly waste, without the strippers, was 1.19%. With strippers, it is 1.20%.

Mill R reported: "The continuous strippers are taken off and inspected every time the card is ground. Any necessary repair is made at this time.

"The average life of the needle bars is approximately a year. Some may run two years, others only six months.

"There is no cut-and-dried formula for changing the needle bars. This is left up to the judgment of the grinder. Any sections having broken needles should be changed. Since we set these needles ¼ in. into the cylinder wire, any needles worn off that much should be replaced.

"We are grinding the cards every 15 to 20 days. Running three shifts at 9 lb. per hr., this would give approximately 3,240 lb. of production between grindings. We are now roll-stripping these cards once per 24 hr., or approximately every 216 lb. of production.

"We have not been able to prevent 'snowballs' caused by the continuous strippers. However, shifting the stripper a little from one side of the card to the other will sometimes stop snowballing. The snowballs seem to be caused by the fact that the traverse motion of the stripper allows the cylinder to load up along the selvage while the stripper is to one side; when the stripper moves back to that selvage, it knocks this load off the cylinder.

"We haven't changed our carding rate any because of the continuous strippers."

SNOWBALLS. Mill A reported that it strips cylinders and doffers by hand every 32 hr. The continuous strippers are inspected about every six weeks at the time that the flats or lickerins are set. Snowballs are prevented by closing up the lap guide 2¼ in. narrower than the width of the card and setting the back cylinder screen to a 17 gage instead of a 34.

Opinion was divided as to the merits of using a traverse grinder on flats. Of the six mills that reported on this question, three favored traverse grinders and three did not like them.

Mill I reported: "It takes longer to grind the flats with a traverse grinder; consequently, the card is out of production longer. The traverse also does an uneven job."

Mill W reported: "We have one traverse grinder for flats for experimental purposes. We took one set of old flats and ground them 16 hr. per day for three months just to see what would happen. When the wire was ground down almost to the knee, we took the flats off to check them for hollow grinding, side grinding, or anything else we could find wrong with them. So far as we have been able to ascertain, they are perfectly level and true in every way.

"In our opinion, the traverse grinder for flats will surpass the conventional drum grinder for uniform grinding of flats."

Mill Z wrote: "We do not use traverse grinders on flats due to the increased time required to grind with this method. It requires more equipment, increasing the investment involved so much that we do not think that the benefits derived would justify the expenditure."

CLOTHING CARDS. Question No. 5 asked for mill practice on clothing cards. A summary of the answers on three phases of the question is as follows:

1. Twenty-one mills pull on card clothing, let it stand a few hours to lose its stretch, and repull it. Eleven mills pull clothing on only once.

2. Eleven mills grind the surfaces of cylinders before the clothing is put on, 16 mills do not, and five grind the cylinder surface if it is not true.

3. Twenty-seven mills pull on clothing from the back of the card, three pull from the front, and two pull from either direction, depending on whether or not the doffer is also being clothed.

(Continued on page 188)

Handling Nylon, Cutting Costs Feature KNITTING SHOW

HIGHLIGHTS: *New knitting machines emphasize versatility—Short-cuts in handling nylon—Stronger bobbins produced—Finer hosiery gages shown —Finishing equipment improved.*

IMPROVED MACHINES, supplies, and methods—especially for handling nylon—highlighted the 1949 Knitting Arts Exhibition in Atlantic City. Much that was shown was designed for versatility and to cut costs.

Concise descriptions of outstanding new developments that were displayed are presented here. To request further information on new products shown at the exhibition, use the card on page C in the Reader Service Dept., which begins on page 173. Use the number at the end of each item to designate product on which you want more information.

Knitting Machines

► The new Model C-2 tricot-knitting machine shown by Whitin Machine Works operates at 400 to 450 courses per min. Gages available are 14, 28, and 32; the needle bar is 168 in. long.

A new type of needle bar using "butted" needles is available as optional equipment. With the new bar, a broken needle can be removed and replaced in a few seconds. Tests are said to have shown that the butted needle can be replaced in exactly the correct position, maintaining original accurate gage of the bar. Installation, maintenance, and replacement costs of the needle are said to be less expensive.

The new machine has specially hardened pattern wheels said to give unusually long service. A direct, positive contact between cam rolls and pattern wheel insures close control of the knitting operation.

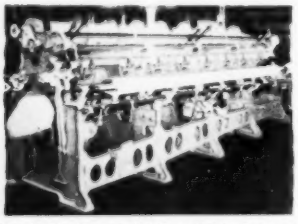
Knitting cams are of one-piece construction and are said to be easier to time and adjust. Use of fiber cams has reduced noise and wear.

An improved electrical quick-stop motion is designed to reduce the stop streak to near invisibility. The stop position is also controlled so that the needle stops in exactly the right position for rethreading.

An inching service device is controlled by a handle moving in a short arc, conveniently located for the operator.

An automatic Bijur centralized pressure-lubrication system lubricates the whole machine periodically.

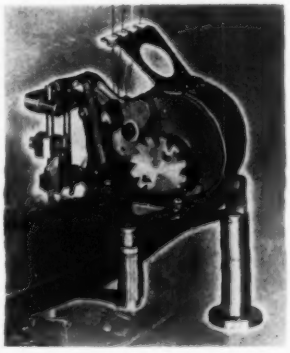
Other improvements are use of light-metal alloys on many parts, a better sinker, center-mounted tachometer and rack meter. (B-1)



AN IMPROVED TRICOT MACHINE, Model C-2, shown by Whitin Machine Works features higher speed, a new type optional needle. (B-1)

► New synchronized cutters on striping machines which eliminate waste were introduced by Supreme Knitting Machine Co.

Each striping feed is equipped with a cutter. The cutter action is synchronized with that of the striping drum, which changes the color of the variable stripes. At the correct instant when the color changes, the yarn going out of action is clipped close to the narrow seam. It is then held in a special clamp along with the other yarns, each ready to go back into action the moment the pattern calls for it. No braid of waste is created, there are no floating yarns in the center of the



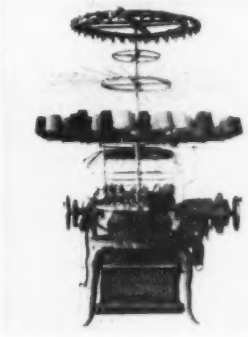
THE "NO WASTE" CUTTER shown by Supreme Knitting Machine Co. eliminates yarn waste formerly made on stripers. (B-2)

machine, and there is said to be no need for special stop motions. (B-2)

Also shown for the first time was an automatic pattern placer for the model SA-ROF variable stripe and plaid machine, a stationary-head machine. (B-3)

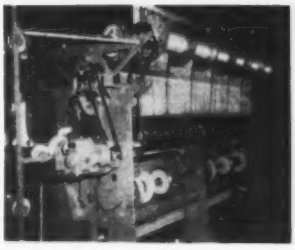
▶ A more perfect fit at the ankle of a full-fashioned hose is the purpose of the mitre-heel development of Karl Lieberknecht, Inc. Located at one end of the knitting machine, the heel attachment controls the movement of mitre-heel knives that press the needles required to knit additional fabric needed at that point. (B-4)

▶ A non-float jersey machine, Style STWY, by H. Brinton Co. has three-position pattern wheels for shirts, dress goods, stripes, plaid designs, etc. The machine is 24-in., has 32 feeds, 1,380 needles, and is 18 cut. Wheels and automatic tuck bars are on all feeds; four-color yarn changes are on 16 feeds. Other features are free-wheeling, disk clutch, and a yarn-saving device. (B-5)



A NON-FLOAT JERSEY MACHINE, Style STWY, by H. Brinton Co. has 3-position pattern wheels. (B-5)

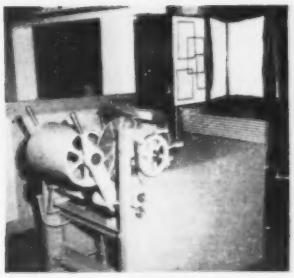
▶ An improved raschel warp-knitting machine shown by Kidde Mfg. Co. featured a lower and more compact construction, slide-shaft setting for guide-bar hangers, a larger cloth take-up roll, magnetic switches,



A WARP-KNITTING MACHINE, described as their Model C, was shown by Kidde Mfg. Co. Rear view shows two of three sets of beams being used. (B-6)

chain tension let-off for warp yarn, chopper bar for laying on yarn for a raised effect in the cloth, sinker-bar attachment for fabrics with a tight stitch or to reduce trouble with multi-selvages, and lighting facilities for working parts. (B-6)

▶ A single-head full-fashioned machine, produced in 54 and 66 gages, was displayed by Wildman Mfg. Co. A new Pointex attachment for greater range of heel construction and a new drip pan that replaces the guide rods formerly separated the yarns have been added to the machines. (B-7)



A NEW WARPER for section beams was also shown by Kidde Mfg. Co. It handles up to 300 ends. (B-8)

▶ A new sectional warper for use with warp-knitting machines was also introduced by Kidde. It can accommodate up to 300 ends and is equipped with a variable-speed motor and a differential ratio on the drive. Speed is adjustable from 200 to 1,500 ft. per min. (B-8)

▶ A multi-feed, latch-needle machine for producing run-resistant fabric was featured by Tompkins Bros. Co. Feeds range from 20 in 9-in. machines to 52 in 24-in. machines. Gages range from 18 to 42.

Sewing and Finishing Equipment

▶ A small, single-conveyor dryer for predrying of socks before boarding was demonstrated by Procter & Schwartz, Inc. Use of the dryer eliminates uncertain predrying previously done in dry rooms; it speeds preboarding.

The dryer has a 2-ft.-wide conveyor which drys socks to a predetermined moisture content—or to completely dry condition, if desired, as for "clocking." Proper predrying is said to aid in final boarding. The conveyor dryer has a capacity of 300 doz. pairs of socks per hour, depending on weight of the sock and speed of the machine. An increase in boarding production of 30% is claimed. (B-9)

▶ A dual-board take-out device was the major improvement on the preboarding equipment of Procter & Schwartz, Inc. The new device brings out boards individually and continuously.

After the steam chamber rises to the top of its stroke, the boards are automatically raised to a vertical position by the lift ring rotating over a cam. The boards then rotate until two of the boards on each side of the machine have been brought out to the boarding and stripping position by a dual automatic take-out device. The machine remains in this position until the operators are ready to strip and board stockings on the two forms on

KNITTING SHOW REPORT

(continued)

each side, which are already in the boarding position. At the same time, one of the operators pushes a button to restart the turntable.

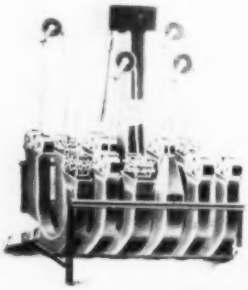
After the turntable has been restarted, the forms come out into the two boarding and stripping positions continuously until all of the stockings are stripped and fresh stockings are boarded on the forms. Then the turntable automatically stops. Next, one of the operators pulls a lever which nests the forms and starts the steam chamber down to the locking position again.

The operators then move to the other machine on which the stockings have been processed and which is now ready for stripping and boarding. (*B-10*)

▶ A new "Junior" bleaching unit for the small knit-goods finishing plant was introduced by H. W. Butterworth & Sons Co. Capacity is 300 to 600 lb. per hour. Space required for a single-stage unit is 13 ft. long, 16 ft. wide. Speed of processing averages 50 yd. per min.

The bleaching unit has new U-type washers and saturators made of stainless steel with round corners. The compact machine is a complete operating job fully equipped with squeezers, washers, saturator, J-box, reels, motors, instruments, and auxiliary equipment.

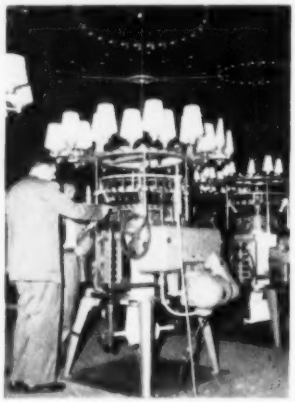
The single-stage system consists of one standard squeezer, four U-type washers, one U-type saturator, one J-type bleaching compartment, and four V-type reels. The Junior bleaching unit is also available as a two-stage system. (*B-11*)



***A COMPACT CONTINUOUS-BLEACHING** range for the small finishing plant was shown by H. W. Butterworth & Sons Co. The single-stage unit is shown above. (B-11)*

▶ A new high-speed transfer machine, the Paramark; an air-cooled boarding table; and the Paramold 33, a new vertical retort with a revolving door with 36 forms mounted on each side, were shown by Paramount Textile Machinery Co. [For details see TW., May '49, p. 143.] (*B-12*)

▶ A high-temperature intensifier manifold for boarding forms was shown by Philadelphia Metal Drying Form Co. Design of the manifold insures optimum use of steam, dryness of steam, and eliminates "blowing off" of forms to remove obstructions. (*B-13*)



***A 20-IN., 30-FEED** plain rib body machine for high production of knitted underwear fabric was shown by Edmos Products Corp. It is built in sizes 9 to 26 in. and in 8 to 16 cut. (B-14)*

▶ Fully automatic lubrication and other features were demonstrated on several new sewing machines shown by Singer Manufacturing Co. Greater operator visibility and improved feeding were shown in the new two-thread, chain-stitch, Class 253 machine. The arm is inclined 11° to the rear to provide greater clearance and visibility. Angular presser bar and elliptical motion of the feed dog are designed for improved feeding conditions. The Class 253 machines have unique lubrication systems. From a reservoir in the base, a pump delivers oil under pressure to the principal bearings and floods the driving gears with a bath of oil. Wick and other means provide lubrication. (*B-14*)

***INCLINED ARM** which is tipped away from the operator 11° was center of interest at exhibit of Singer sewing machines. (B-14)*

▶ Preboarding or finish boarding of Nylon hosiery on the same machine is made possible by the new Turbo Machine Co. Model VD-48 machine. The machine accommodates 48 leg forms in two groups of 24 forms each. The steaming chamber is an all-welded steel vessel. It has additional heating facilities and a steam ejector to dry hosiery in a vacuum. (*B-15*)

▶ A new automatic transfer iron equipped with a heat-control device was introduced by Textile Trimming & Boarding Machine Co., Inc. Heat control permits the user to regulate transfer heat from 300 to 600° F. The same iron is used for nylon hose, pastel silks, or army socks. A rotating stocking-turning machine was also demonstrated. (*B-16*)

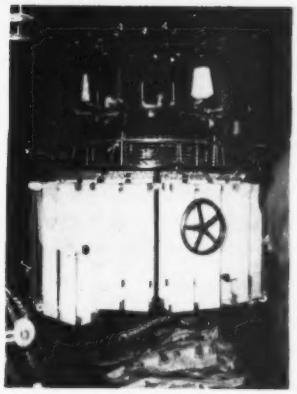
▶ Hosiery seaming on a new pedestal seamer that does not have to be fastened to the floor was featured by Union Special Machine Co. Less floor space, adaptability to any room requirements, and simple installation are said to be some of the advantages of the seamer. Operator comfort is greatly improved. With her chair facing the treadles, the operator assumes a natural position in relation to treadles and feed. Operating treadle and cup-opening treadle are adjustable to the length of the operator's legs. (*B-17*)

***HOSIERY SEAMING** is done on a new Union Special machine that does not require fastening to the floor. (B-17)*

▶ Four-speed mending of 54-, 57-, and 66-gage hosiery was featured in the new Velox hosiery-repair machine shown by Stanford Malley Distributing Co. The speed can be dial-set and changed automatically. Operator training is said to be reduced to 1 to 2 days. Latch-needle operation of the machine is reported to result in more perfect mending. The latch needle is claimed to be easier to adjust and not so sensitive as slide needles. (*B-18*)

▶ New seamless-hosiery boarding forms were featured by Essex-Riplyn Co. in a bulged-toe model that was said to correct and overcome some defects. The new toe was made into the form. So-called "dog ears" of seamless hosiery caused by loose stitches, poor looping, and incorrect setting of the machine were said to be corrected by the bulged-toe form. (*B-19*)

▶ Label printing on pressure-sensitive backed tape was featured on a Markem Machine Co. Model 12A printer. Blank tape is fed from a roll, printed, and re-



A 24-FEED WHEEL and 12-jacquard machine for knitting polo-shirt fabric was featured by Jacquard Knitting Machine Co. Other models shown included links-and-links and rib machines. (B-21)

wound on a roll to fit commonly used tape dispensers. (B-20)

▶ An H&W conditioner arranged for presetting hosiery was shown by Industrial Dryer Corp. It has a high-range recorder, an extra timer, and an air changing system. One mill reports using the machine on bundled gray hose as they came from the full-fashioned knitting machine. A 20-min. period at 205° at 70% r.h. plus a drying period was said to eliminate preboarding. A preboarding machine is used for final boarding, however. Another mill uses the machine to speed up seaming and reduce pulled threads, according to reports at the show. (B-22)

▶ Individual looper stands, extensible looper tables of improved design, new plastic gear guards, and an adjustable fluorescent looper light were shown by Southern Textile Machinery Co. The extensible table has color engineering, Formica top, structural design that permits easy storage, ball-bearing shafts, and variable-speed pulleys. (B-23)

▶ Latch-needle mending of hosiery was shown by American Vitos Co. in a new mending machine and needle. Control of threads is said to be constant. A needle shank is used in place of the piston rod. The machine operates at 1,800 or 2,800 rpm. Relooping of nylon is said to be done without trace of the passage of the needle through the hose. A new mending table that has overhead and inside-table lights was shown. (B-24)

▶ Kelpie wool-shrinkage control, a continuous wet-chlorination process done either before or after bleaching, was featured by S. E. M. Dye Works, Inc. The process partially smooths the scales on the wool fibers and prevents felting when the fabric is washed reasonably carefully. The company claims warmth, softness, elasticity, strength, and beauty of the fabric remain unimpaired. (B-25)

Throwing Machinery

▶ Headless and one-headed take-up packages were featured on up-twisters. The "King Spool" machine, publicly shown for the first time by Fletcher Works, has a tapered head at one end and was headless at the other. A novel wire yarn guide moves to the right individually for each spindle as the package fills.

A stop-motion, actuated by a boss on the cork-roll shaft lifts the "King Spool" from the cork roll when an end breaks or a spinner bobbin runs out. The new spool has provisions for a tail and has applications for both weaving and knitting yarns. Some knitters indicated interest in knitting nylon directly from the new spool. [See also T.W., May, 1949, p. 150.] (B-26)

THE KING SPOOL nylon uptwister of Fletcher Works is inspected by William Buxman, TEXTILE WORLD business manager. (B-26)

▶ The new headless package shown by the Atwood Div. of Universal Winding Co. has a self-threading guide. A positive traverse motion shortens the stroke on each spindle as take-up bobbins fill. The headless take-up is mounted in a bobbin hanger. The show machine was running 8-oz. packages of nylon at 13,500 spindle speed and 12-oz. at 12,500. New Atwood roller-bearing spindles are used.

The Atwood redraw machine shown also has the self-threading traverse guides and in addition has a full-bobbin stop motion.

A "Jumbo" cone was seen on Universal's coning machine. It has a greater diameter than conventional cones to increase average yarn speed and to decrease the "stitches" sometimes found at the start of conventional cones. (B-27)

▶ A new taper-package machine by U. S. Textile Machine Co. was designed especially for nylon. It has a positive mechanical stop motion for the headless package. A bail roller is used against the face of the package. Each spindle has an ingenious device for reducing the stroke of the traverse as packages fill.

A new high-speed spooler for winding from pirns, cakes, or cones was also shown by U. S. The machine has a built-in speed control, 100 to 700 y.p.m. It also can be converted to wind from skeins.

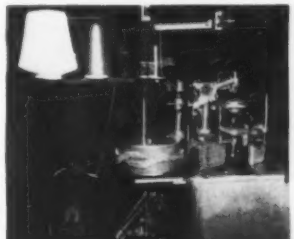
An improved up-twister for combination yarn has a new taper-end traverse attachment. It also features a spindle-stop brake that can be quickly released by touching a tab. This same machine was shown spinning directly from pirns, such as could be done for tricot yarns. (B-28)

Auxiliary Devices

▶ Bad-cloth knock-offs were featured by The Crawford Mfg. Co., Inc. Knock-off detectors for both open-top and rib machines were shown. A "Hole Detector" is used on open-top machines. It consists of four cross-arms extending from the center of the open cylinder top to the fabric. At the fabric end of each crossarm, a set of three detector fingers bears against the cloth. If one of the fingers strikes a hole in the cloth and is pulled out of place, the machine is stopped. To reset a finger, the operator pulls the lever.

A "Defect Finder" works in a way similar to the working of the hole detector. Only one detector is used. It is located in the lower part of the cylinder of a rib machine. As the machine runs, the detector bears against the cloth.

An improved knock-off was also shown by Crawford. Means were provided for stopping the machine when there is a failure of current supplied. (B-29)



DOUBLE-FEED half-hose machines were shown by the American Textile Machine Corp. Added to their former single-feed machines, this feature is said to double production and make unlimited half-hose patterns possible. (B-31)

▶ A knock-off to stop a knitting machine and keep it out of production in case of failure of current to the stop motion was demonstrated by Stop-Motion Devices Corp. Other products featured were its "Retractable Needle Protector" to stop the machine if a needle strikes the cylinder and its "Sentinel Press-Off Detector." These devices are adaptable to many makes of circular knitting machines. (B-30)

▶ A four-color yarn changer for use on Brinton, Wildman, and Fidelity ribbers was shown by Cobble Bros. Machinery Co. An installation consists of the changer,

KNITTING SHOW REPORT

(Continued)

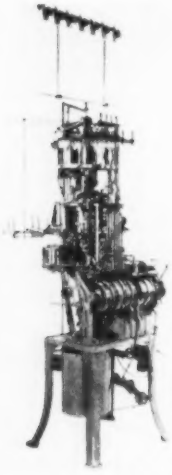
a selector cam and cam stand, and a drum and pattern chain.

In operation, no ends are left sticking out of the hose. When a color change is being made, the knitting needle pulls the yarn from under the changer clamp and knits it into the fabric. (B-32)

▶A new pneumatic means of measuring dimensional restorability of knitted materials was shown by United States Testing Co., Inc. The device serves to measure the force necessary to restore a given area of fabric to any predetermined percentage of tolerable shrinkage and to set standards based on restorability.

The prepared test specimen is mounted on a circle of pins around a diaphragm in a deflated condition. An air needle-valve is opened to inflate the diaphragm at a reasonable and constant rate. An adjustable electrical trigger gage is arranged to operate the release valve of the air system when a predetermined diameter of the diaphragm has been reached. The pressure is then read off at the release point. (B-33)

▶A bag holder developed in conjunction with Artcraft Hosiery Co. was shown by C. P. Kaler Co. Reduced hosiery damage caused by repeated handling is said to result from use of the stand. The hook is spring steel, made in two sizes for bags 18 to 28 in. Stand is steel tubing, 40 in. high and has a welded-steel hose. Six location holes permit adjusting bag height. Finish is chrome plate. (B-34)



A KOMET WRAP MACHINE for producing embroidered clocks and wrapped patterns on rib hose was among machines shown by Scott & Williams, Inc. The wrapping mechanism provides ten steps in the pattern and up to 20 wrapping fingers. (B-35)

▶Tension testing of hosiery on a completely redesigned Serigraph tensile tester was demonstrated on the Scott Testers, Inc., IP-4 machine. Three positions from instep to welt are usually selected for the tests. Stretch and recovery at these positions are charted. Size standards are established by models and pre-set on the machine. (B-36)

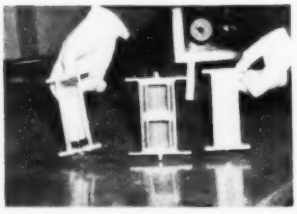
STRETCH AND RECOVERY TESTING of hosiery on an improved machine was shown by Scott Testers, Inc. (B-36)

Bobbins and Boards

▶Drawn aluminum bobbins that have no joint between head and barrel were shown by a company new to the textile field, Acrometal Products, Inc. The company has been making precision spools for wire and are applying wire-spool techniques to the manufacture of textile bobbins. It showed a line of winder-spinner spools that had combination fiber-and-aluminum heads. Also shown was an inexpensive aluminum take-up tube complete with stainless-steel gudgeons. (B-37)

BOBBIN HEADS are reburnished in an ingenious machine by Acrometal Products, Inc., demonstrated by Miss Dorothea Lawless. At left is a device for restraightening bobbin heads. (B-37)

▶A hollow-construction spinner bobbin that used a bakelite barrel, bakelite heads, and bakelite bearings was shown by Allentown Bobbin Works. The bobbin is said never to need reaming. A spinner bobbin using a rock-maple barrel was reinforced with a bakelite tube to forestall crushing by nylon yarn. It also had bakelite bearings in each end to eliminate need for reaming. A steaming bobbin shown had three reinforcing disks. (B-38)



THREE NEW BOBBIN DESIGNS by Allentown Bobbin Works were developed to withstand crushing action of nylon. All have internal reinforcing. (B-38)

▶A pin board for use with the Abbott winder automatic boarding attachment was shown by Johnson Engineering & Manufacturing Co. The board holds 80 stainless-steel pins and has a solid-aluminum base with handles attached. Johnson also showed a new pintray construction that used U-shaped stock to form two pins at a time. Less yarn trapping was claimed for the new construction. (B-39)

PINTRAY for use with Abbott winder automatic boarding attachment is here being shown to C. W. Bendigo, editor of TEXTILE WORLD (right), by George McGee, of Johnson Engineering & Mfg. Co. (B-39)

▶A steaming shaft with a moulded bakelite barrel was one feature of the Cloverleaf-Freeland Corp. exhibit. Also on display was an extremely large aluminum steaming bobbin and another that had a large hole in it for mounting over an arbor.

An all-plastic bobbin, lighter in weight than older types, by the G. B. Co. had a novel construction to prevent yarn trapping at the head. Two different designs were shown, both of which are new. It is claimed that such bobbins are very stable dimensionally and have been tested at up to 15,000 rpm. (B-40)

▶Bobbins and many bakelite supplies for textile mills were shown by the Textile Division of Synthane Corp. Two pirn caps

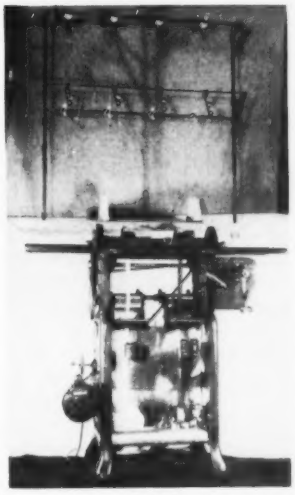
developed by the company will fit all 11 sizes of nylon pirns in use. A large ring-twister bobbin shown was designed for a bottle build and to accommodate a transfer tail.

A flat form for inspecting hosiery was also shown by Synthane. It had a groove into which a stocking could be laid so that it could be turned right-side out as it was drawn on the inspection form. Thus, the stocking is examined after turning, and there is little danger of inspectors not seeing pulled threads caused by turning. (B-41)

Plant Equipment and Supplies

▶ A 36-in. V-shaped mop that can be used in any areas varying from 10 to 63 in. in width, as well as for reaching under machines was shown by G. H. Tennant Co. Mops are furnished in 6-in. removable sections. Steel-tubing handles have rubber hand grips and ball-and-socket joint at mops. Mops are available in 18-, 24-, and 36-in. lengths. (B-42)

***AN EXPANDABLE V-TYPE MOP** which lends flexibility to sweeping operations was demonstrated by G. H. Tennant Co. (B-42)*



***A TWIN-HEAD BORDER KNITTER** was shown by the American Knitting Machine Co. The machine knits full cardigan, half cardigan, and cuff stitches. It is equipped with an electric stop motion and needle protector. (B-43)*

***ELECTRONIC LETOFF** shown by Westinghouse holds constant tension on unwinding beams. (B-44)*

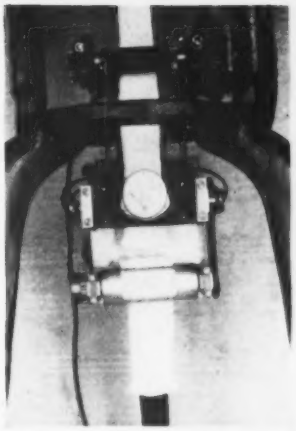
▶ Electronic let-off drive for warp knitting, bus ducts to distribute secondary power, and electronic low-energy relay for warp and other stop motions were featured by Westinghouse Electric Corp. The let-off drive was said to give constant tension for winding or unwinding operations. Drives are available for 60-cycle, single-phase, 115-volt, a.c. power, and with transformer for 230, 460, or 575 volts. Bus ducts include feeder, plug-in, weather-proof, and low-impedance types. (B-44)

▶ Electronic rectifier for conversion and control circuits, motor, and generator fields, was demonstrated by Reliance Electric & Engineering Co. The 230-v., d.c. package unit was said to be adaptable for magnetic chucks, solenoids, control relays, dynometers, small synchronous motors, magnetic clutches, and brakes. (B-45)

▶ A new hosiery lubricant in the form of a dusting powder was offered by United Knitting Machine Co. for reducing pull threads in full-fashioned hosiery. The powder is blown on bundles of hose after knitting and lubricates the hose and operators' hands. It comes out readily during the scouring operation.

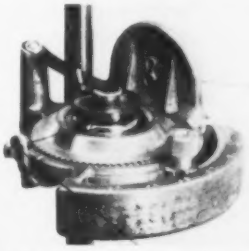
United also showed a new stocking turner made of bakelite tubing. (B-46)

***NEW TAPER-PACKAGE UPTWISTER** for nylon is demonstrated by A. W. Thomas, Jr., of U. S. Textile Machine Co. Looking on is Ray Gilbride, U. S. erector. (B-28)*



***A NEW METHOD** for separating knitted fabrics by use of thermo-plastic yarn was shown by P. C. Klinger. One course of a low-melting-point yarn is knitted in. Heated rolls of attachment melt yarn, separate tops, eliminate cutting. (B-47)*

***INDIVIDUAL LOOPER STAND** was shown by Southern Textile Machinery Co. (B-48)*



***TENSION CONTROL FOR WARPING** was demonstrated by Walter Kidde & Co., Inc. Pressure on spring-loaded disks is increased or decreased by a control arm in response to yarn pressure on a control arm. Tension up to 20 grams can be exerted. (B-49)*

Additional machines shown at the Knitting Arts Exhibition appear on page 172.

MILL SAVES 25% ON FORMULA COSTS

Sunotex Replaces 3 Formula Components on Slashers Sizing Synthetic Warps

A textile mill was using a softening oil, a penetrant, and a preservative for sizing viscose and acetate warps on a Johnson slasher. The use of so many components was expensive. They were also hard to handle, because they either had to be dissolved separately before addition to the formula, or heated before compounding.

A Sun Engineer, asked to study this problem, recommended that all three competitive oils be replaced with a single Sun product—"Job Proved" Sunotex. There was an immediate improvement in smoothness and sizing, extending over a 4-year period. Also, the same components worked equally well on Fortisan and Nylon when these were added to production. There has been a 25 percent saving in formula costs. Furthermore, Sunotex is uniform in quality, easier to handle, emulsifies readily and requires no reconditioning.

This is typical of the reduction in costs and improvement in products made possible in many mills with the help of Sun Textile Processing Oils. For further information about Sunotex or other Sun products for fibre-processing, call or write the nearest Sun office. The services of a Sun Engineer are available without obligation.

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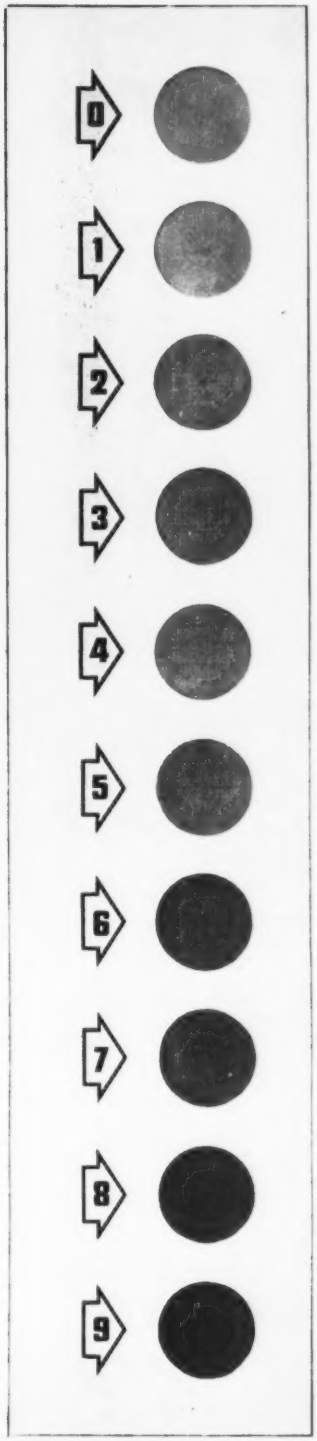


EVALUATION Of DESIZING Aids Preparation For Dyeing

HIGHLIGHTS: *Excess residual starch causes blotchy dyeing—Iodine solution is basis of test comparison for quick determination of amount of starch—Setting maximum admissible amount permits ready control and prevents dye faults from this cause.*

By K. WILLEM KELLER
Textile Chemist, Nijverdal, Holland

DYERS AND FINISHERS recognize that residual starch left in goods after preparation may cause uneven or blotchy effects in dyeing. It is, therefore, helpful for a plant to know the efficiency of its desizing operation, which in many cases may be lower than believed. The method here described is a relatively simple laboratory control operation for the determination of residual starch. The test may be applied either on goods which have been desized or on goods which have been desized, scoured, and bleached.

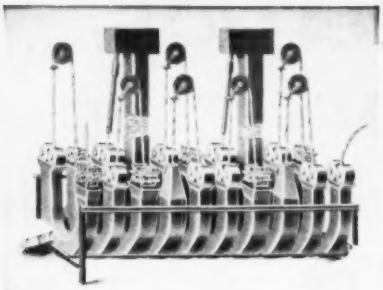
Every chemist knows that when starch is treated with an iodine solution, a blue or violet stain appears. The test described depends on the fact that the depth of shade of this stain will vary in accordance both with the amount of starch present and with the concentration of the iodine solution. Thus, it is possible to get a measure of varying amounts of starch by dropping a standardized iodine solution on the goods and comparing the shade obtained with a series of standard samples containing known amounts of starch. Since the bluish coloration is not permanent, it is necessary to drop the iodine solution on the standard samples at the same time.

CONTROL METHOD. To facilitate the comparison, a desizing scale has been worked out with the degree of desizing arbitrarily numbered from zero to nine. These numbers could also be replaced by the known amount of starch placed on the standard samples. By placing one drop of the iodine solution on the cloth to be tested, and also on the series of standard samples, an immediate reading can be obtained, either in percent residual starch or according to the corresponding number on the scale. The plant chemist can establish the highest admissible residue of starch which he recognizes as proper for any particular fabric to avoid dye irregularities due to excess starch, and simple spot tests in the plant will maintain this standard.

A standard iodine solution which has well served mill purposes follows: 0.5 grams iodine crystals C.P. and 1.7 grams potassium iodide to 1 liter of distilled water.

Editor's Note: A test of the sort above described greatly simplifies starch determinations for relatively small percentages of starch. However, if there is any appreciable amount of starch remaining in the goods, the blue color becomes so intense that visual comparison is difficult. Since converted starches and dextrines, which ar sometimes found in sizes, give variations in shade ranging from blue of unconverted starch to red in the case of some dextrines, care must be used in interpreting results. Minute traces of alkali in the goods also tend to interfere with the test. It would probably be desirable to pre-treat the test sample with dilute acid to neutralize any traces of alkali and then dry before dropping on the iodine solution.

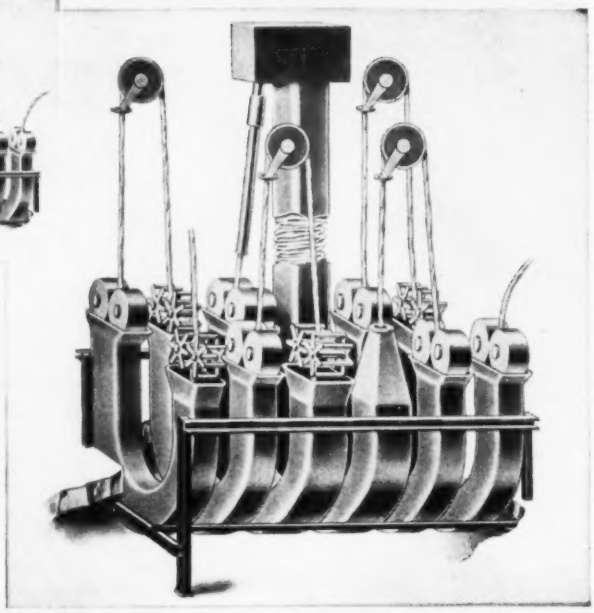
TYPICAL DESIZING SCALE *made by dropping one drop of standard iodine solution on goods containing known amounts of starch. Unknown sample may be rated by comparison of depth of shade.*



*Patent Pending

Side view of the two-stage Butterworth Junior Bleaching Unit, showing "U" type Washers, Saturators, Squeezers and J-Boxes.

Butterworth Junior Bleaching unit, single stage system, showing Squeezer, "U" type Washers, Saturator and J-Box. Note compact size of the bleaching unit, and stainless steel construction.



Junior does a "Man-sized" Bleaching Job

If your production does not warrant a full-sized continuous bleaching range, yet you want the benefits of continuous bleaching, here is the range for you!

You can do high-speed continuous bleaching in a fraction of the floor space formerly required. You can bleach knit goods or cotton piece goods in an area *13 feet long* and *16 feet wide!* Here is a single-stage bleaching unit extremely compact in size, yet so functional and efficient it handles cloth at an average rate of 50 yards per minute.

The new Butterworth JUNIOR Bleaching Unit is a complete, operating job fully equipped with Squeezer, Washer, Saturator, J-Box, reels, motors, instruments and auxiliary equipment.

The specially-designed J-Box on the Butterworth JUNIOR Bleaching Unit handles 300 to 600 lbs. of cloth per hour. Cloth is handled gently and efficiently with patented Butterworth tension control devices.

Here is a major step in Finishing Plant economy. Compared to kier bleaching, the new Butterworth JUNIOR Bleaching Unit saves up to 75% in steam alone, and 10% in chemicals. And only one man is needed to run the unit as compared with two men on conventional ranges.

Let us show you how JUNIOR can do a "Man-sized" bleaching job for you. Write or call.

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Representatives in Principal Countries of the World

A DEPOSIT to his account is made by mechanic Fred Barricelli at the credit-union window located in the personnel department.

HOW TO GET A LOAN is explained in private to an employee by John Gregor, plant training coordinator and assistant treasurer of the Fiberglas credit union.

CREDIT UNION Is Valuable Worker Benefit

HIGHLIGHTS: *Credit-union membership held by 72% of workers at Owens-Corning Fiberglas Corp.—System promotes thrift and worker security —Company contributes administrative costs—Lost time for handling financial matters is reduced.*

By CHARLES H. LEACH

THE OWENS-CORNING FIBERGLAS CORP. is encouraging and contributing to a systematic savings plan for employees through a credit union at the company's Ashton, R. I., plant. The result has been a large employee participation, promotion of thrift and worker security, and reduction of time lost for banking matters. In addition, the speed and nature of the service rendered has promoted worker loyalty.

Since October, 1946, when the Fiberglas credit union was incorporated, 72% of the employees have become members and have enjoyed watching their savings grow. It is a source of pride, gratification, and comfort for all to know that their own credit union is a profitable institution; that their savings are in secure investments; that a sudden demand for emergency cash need not frighten them, because they have been able to save consistently.

If workers' savings are not sufficient to meet an unexpected need, they can borrow up to $500 on co-maker loans and up to $150 on their own signatures. New automobile purchases can be financed up to $1,000 using the car as security. The rate of interest is never more than 1% per month on unpaid balances. On new car loans, the rate is ½ of 1% per month.

Only employees or members of their immediate families are accepted as members in the credit union. An employee is granted full privileges immediately following the approval of his application for membership. An initial payment of 75¢ is made at that time. Of this, 25¢ is the application fee, the remaining 50¢ is applied toward the purchase of a share. Shares have a par value of $5.00.

The Fiberglas credit union was set up to promote thrift among its members by affording them an opportunity to accumulate their savings and to create for them a source of credit for loans for provident or productive purposes. That it has proven popular and helpful is evident from the fact that 369 people have saved $33,291.20 in 18 months. Loans at present amount to $61,000 to members and $1,000 to other credit unions. The Fiberglas credit union owns $8,500 worth of U. S. Government Bonds. Many joint accounts are owned by man and wife. The largest lump-sum deposit made by a member is $1,000. In the 1¼ years of operation, not one bad loan has been granted; not one penny has been lost.

Loans have been issued for sickness, births, deaths, taxes, and various other inevitables. Because the community is semi-rural, some of the plant workers are part-time farmers. Seasonal loans have been granted for seeds, fertilizer, machinery, or repairs and improvement of property.

ELIGIBILITY. To be eligible to borrow from the credit union one must be a member. To become a member, an employee must own at least one share, or must be paying toward the purchase of one share by authorized deductions from wages. A credit committee is elected at annual meetings and serves without pay. Its members must approve all loans. No director, officer, or committee member can borrow in excess of his own personal

(*Continued on page 222*)

For Quick Service on Stainless
Bars, Pipe, Sheets, etc.

Your nearby Ryerson plant is a quick, convenient source for everything in stainless steel. Bars, plates, sheets, tubing, pipe and other stainless products in many types and finishes are on hand for immediate shipment. And stainless from Ryerson stocks means Allegheny stainless, the time-tested product of America's oldest stainless producer.

Durable Allegheny stainless steel provides dependable protection against corrosion and high heat resistance. Its versatility, gleaming beauty and *immediate availability* frequently make it the practical metal for many uses where other steels are usually specified.

Expert technical assistance in determining the kind of stainless best suited to your special needs is available at all thirteen Ryerson plants. You can rely on it because more than a quarter of a century of stainless experience stands behind the recommendations of Ryerson stainless specialists.

So draw on complete Ryerson Allegheny Stainless stocks and be assured of quick shipment, anywhere —and dependable service. Contact the nearest Ryerson plant for all your requirements.

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Cotton-Mill Men Scan CARD-ROOM METHODS

HIGHLIGHTS: *Alternate setting of card flats stops rolling of cotton into neps, Southern Textile Association reports—Magazine feeding of lap winders saves waste, reduces sliver variation—Compressed-roll drawing increases can capacity 46%.*

LAP-METER TESTS should be made on one-half the pickers weekly, according to the experience of one mill reporting to the Southern Textile Association.

FEWER NEPS IN THE CARD WEB were noted by one mill after the settings of flat stands were alternated in steps of 0.001 in. Prior to the change, all stands were set at 0.009 in. Alternate settings were: 0.011 in. on the first two stands; 0.010 in. on the next two stands; and 0.009 in. on the last two. The mill stated that the alternate or tapered method of setting produced less "rolling" of cotton into neps.

Other causes of neps reported were that mere friction of fiber against fiber was enough to cause tangling during manufacturing. Microscopic and differential-dyeing tests were suggested as means of nep control in raw cotton. The microscope detects the thin-walled fiber. The differential-dyeing test reveals mature and immature fiber. Weak-fibered and very fine-fibered cottons were believed to nep badly. Several mills were reported to have adopted individual-bale testing for fiber fineness.

The mixture of neps and trash with white waste was prevented by a method change in the card-stripping operation of one mill. As reported by the mill, stripping resulted in a thin sliver of neps and trash that circled the doffer until taken off by the comb during a later revolution. These impurities fell to the floor. If the previously run-out white waste had not been picked up, these impurities would have contaminated it.

Since white waste was re-run at the picker, the mill believed that neps were being added to the stock. To prevent mixture, the strippers were required to pick up the white waste before starting to strip. Thus neppy strippings could be kept separate from re-usable stock.

Card-room methods were discussed by the Eastern Carolina Division of the Southern Textile Association at their spring meeting. Largely extemporaneous, the comments of the mill men touched many problems. They are condensed here for easy reading. For news about the meeting, see the news columns.

CARD-ROOM TESTS. A tolerance of 12% for card-sliver variation was set up by the laboratory-testing system of one mill. Cards were tested with the Saco-Lowell sliver tester after each grinding. When sliver variation exceeded 12%, the mill required a re-check of the card before re-use in production. A tolerance of 18% was set up for drawing-sliver variation. Frames were checked after each periodic cleaning.

Feed plates were the sources of most unevenness at this mill. Tight bearings, bruises or abrasions of the feed roll, unparallel settings of the roll, and worn calendar-roll shafts were said to be some of the detailed causes of unevenness uncovered by the mill.

The mill used 5-roll, controlled-draft drawing, with two metallic rolls and three cushioned rolls. Increased yarn strength and less sliver variation were obtained by the installation of this equipment. Lap meters were employed to check half the pickers weekly.

Can-capacity increases of 46% by one mill were reported after installation of compressed-sliver calendar rolls on drawing frames. Based upon extensive tests with the sliver tester, sliver variation was greatly reduced. However, the mill stated that high-compression rolls should be properly set and adjusted for good results; improperly placed tongues drag against the side of the groove and may cause the "powdering" of sliver. A small amount of sliver powdering does not affect quality, the mill stated.

Capacity of the drawing can was increased from 12.0 to 17.5 lb. Some trouble was experienced with faulty knockoffs after the installation. But Mill A plans to add weights inside the coiler heads so that the compressed sliver will not rise and knock off the machine prematurely. Some ¾-in. wooden boards will be cut so that the net-weight increase in each head will be 3.75 lb. Its purpose: to hold down the gear until the measuring device knocks it off.

Another mill obtained 17¼ lb. of 60-gr. sliver from high-compression calendar rolls on drawing frames. Variation in running time per doff resulted; and difficulties with the tongues of the devices were said to have caused variations in sliver diameters. No weights were used.

A third mill used an 8.75-lb. weight inside heads. Can capacity was in-

(Continued on page 214)

one quality... the highest

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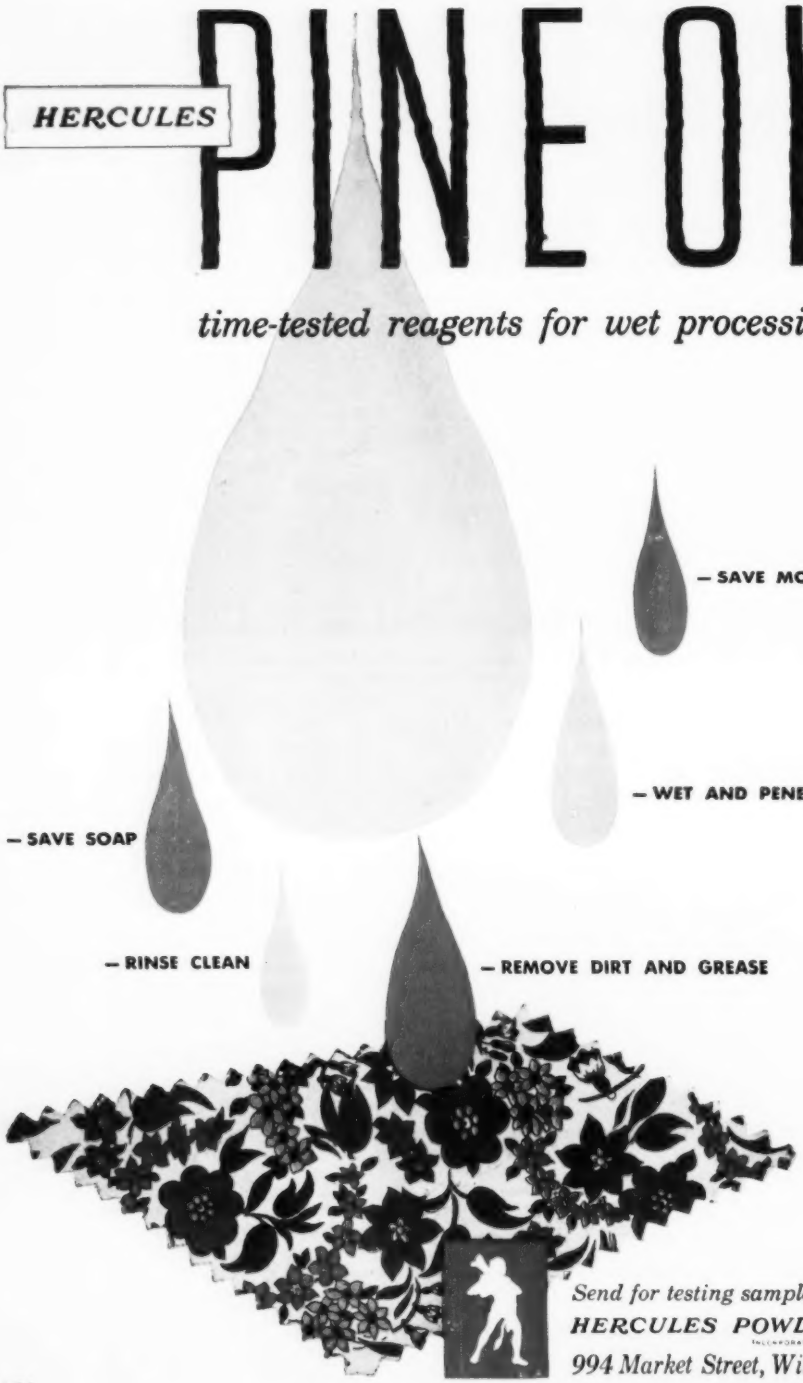

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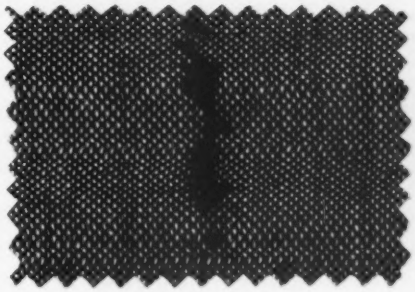
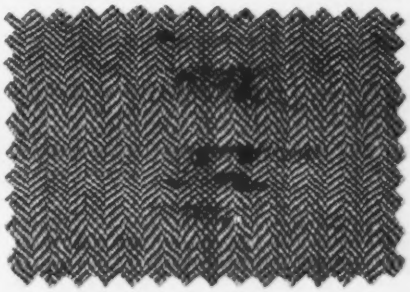
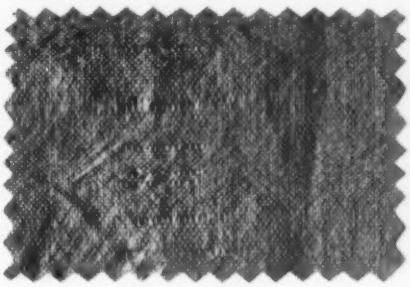


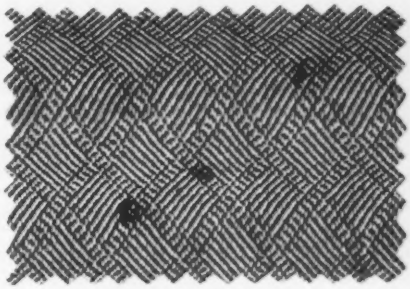
KNOT KINKS are caused by filling looping on a warp knot.



STOP-MOTION KINKS run in a straight line warpwise.



TIGHT KINKS are caused by same conditions as loop kinks, but loops are smaller.



LOOP KINKS are usually the result of too much picking power or lack of tension.

Eliminate FILLING KINKS
To Cut Mending Costs

HIGHLIGHTS: *Filling conditioning and proper loom adjustment best remedy for filling kinks—Location and type give clues to cause and cure—Tropical worsteds and gabardines require special attention.*

By EUGENE P. SCHREMP
Consulting Editor, TEXTILE WORLD

FILLING KINKS are a weaving imperfection which cause considerable mending expense, seconds, and, in some cases, unmerchantable cloth. Kinks are caused by some condition which allows the filling to slacken up and form a loop or series of loops before the lay beats up. If sufficient tension is kept on the filling, it will lie perfectly straight and not loop.

There are four common types of kinks.

1. LOOP KINKS have the appearance of a single loop or series of loops such as are woven into a terry fabric. They may appear on either the face or back of the woven fabric, or on both sides.

2. TIGHT KINKS show in the fabric as a series of filling loops which do not extend more than 1/64 in. They usually run from ¼ to ½ in. in length.

3. FILLING STOP-MOTION KINKS may look like a loop or tight kink. Being caused by the feeler wires on the stop motion, they will run in a straight line warpwise in the same position as the stop-motion wires.

4. KNOT KINKS are caused by the filling looping over a knot in the warp end. These kinks have the appearance of a number of filling loops running for a few inches warpwise.

The mending departments can

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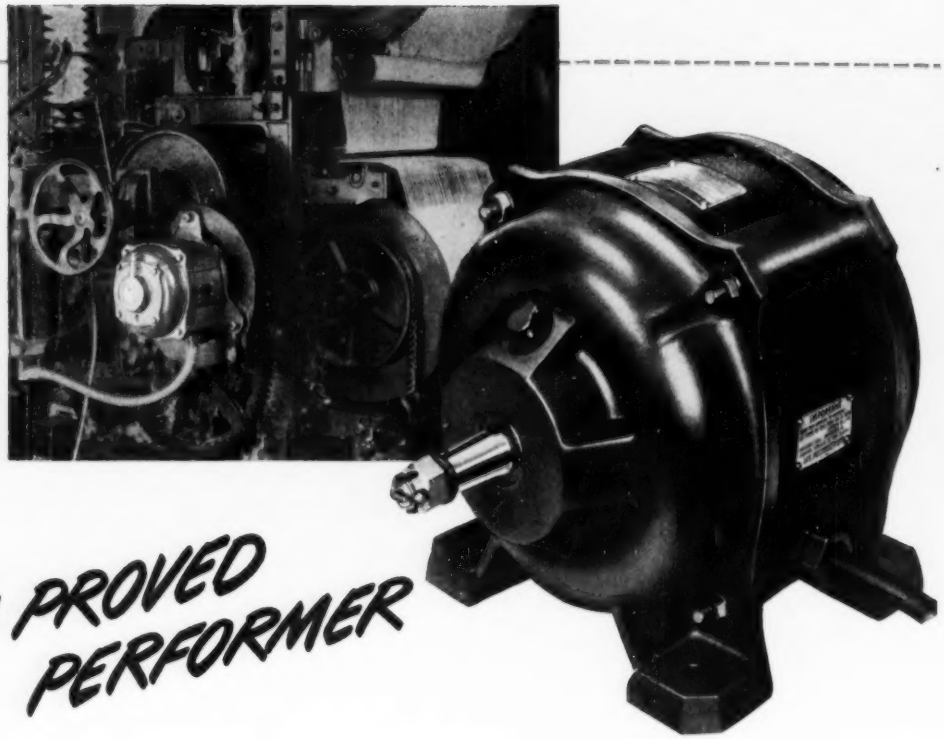

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LOOM MOTORS

***ADJUSTING HEAD MOTION** for an early harness crossing will help prevent filling marks.*

usually repair kink defects. Loop kinks can be pulled through to the back by either the menders or burlers. Tight kinks can be stretched out by pulling the filling with a pair of tweezers. Stop-motion kinks can be pulled through to the back; but if there are too many in some fabrics, the repairing will show up in the finished fabric and render that portion unmerchantable. Knot kinks are a serious problem and are quite expensive to repair. The warp knot must be taken out and the filling pulled through to the back. There are usually little floats of warp and filling which must be rewoven by the mender. In some fabrics, it is almost impossible to do this without causing a damaged place.

CAUSES. Loop kinks are caused by the filling loosening up and forming a loop which weaves into the fabric. Filling should be conditioned by steaming or by being left for some time in a room with a lot of humidity. Filling is usually steamed after spinning to set the twist. Two-ply yarn should be steamed or conditioned after twisting.

The harness motion should be set as early as the weave will allow. If the shuttle enters the box and stops before the harnesses are crossed, the filling will have a chance to loosen up and cause kinks. Too much power on the picker stick will cause the shuttle to rebound and allow the filling to loosen up. Excessive power also calls for a harsh check which stops the shuttle so violently that the yarn will become slack.

Filling tension may be controlled in the shuttle by different methods. The breaking strength of the filling will determine the amount of tension that can be used without causing the yarn to break. Too much filling tension may cause broken picks and also excessive loom stoppage. Too little tension is one of the main causes of all kinds of kinks.

Tight kinks are caused by about the same condition as loop kinks, but usually occur when the fault is not severe enough to make loop kinks.

When examining a fabric, you may find only three or four tight kinks to the yard when the cause is only slight. A fairly bad loom condition may cause a large number of this type of kinks. Lightweight worsted tropicals must be given special attention in weaving to prevent tight kinks.

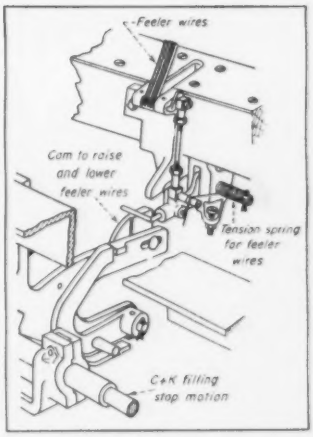
Stop-motion kinks are caused by insufficient filling tension, incorrectly set picking motion, or a faulty adjustment of the filling stop motion. They may have the appearance of either a loop kink or a tight kink. To correct filling stop-motion kinks, check filling tension. If bristle tufts are used, they should exert the same pressure on the top and bottom of the bobbin tip.

Uneven tension will sometimes cause kinks. The picking motion should be set to produce a soft pick. Only sufficient power should be used to box the shuttle so that the loom will not bang off or revoke on a filling transfer.

The filling stop motion should be adjusted so that the feeler wires will make a slow, gradual descent. This adjustment is accomplished by setting the cam so that there is only a slight distance between the dagger and knock-off casting. Feeler wires should not be set too high over the shuttle at back center.

Spring tension on the feeler wire is also important; too much will cause kinks, and too little may cause the dagger to jump over the knock-off lever and cause broken picks. Bent or broken feeler wires will also cause kinks. Most worsted fabrics require the use of the four feeler wires, but on some heavy weight woolen, two wires are sufficient.

KNOT KINKS. Knot kinks are caused by a knot in the warp yarn catching the filling in the process of weaving and making it loop for 3 or 4 in. before it finally weaves in. Fabrics which use a heavy yarn for a warp decoration, commonly called a cable thread, are almost sure to be troubled by knot kinks. In making cable yarn and in warp preparation, every effort should be made to keep the knots to a minimum.



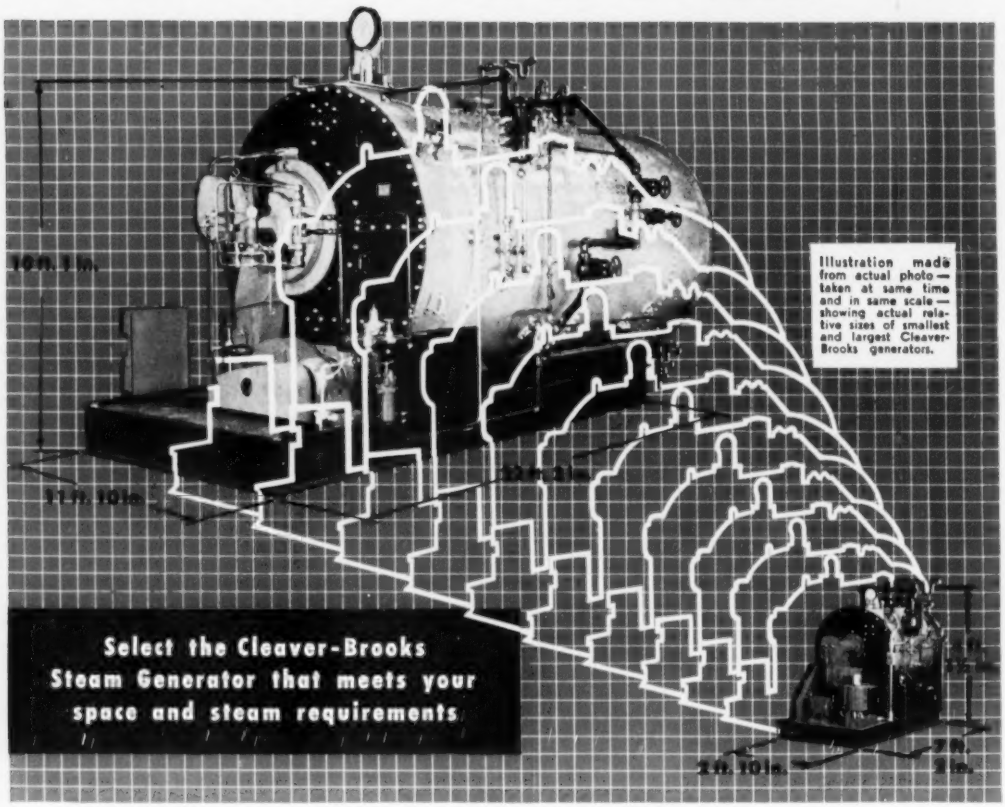
***TOO MUCH SPRING TENSION** or improper setting of filling cam may cause stop-motion kinks.*

Knot kinks, when they occur, may sometimes be eliminated by increasing the filling tension in the shuttle and setting the harness motion for an early crossing. If these methods fail, the weavers should be instructed not to tie any knots in the cable yarn but to have a bobbin of cable yarn back of the loom and weave from the bobbin until the cable yarn in the warp is long enough to pull through the reed without tying a knot.

Knot kinks are also a problem in weaving a fabric with a large number of warp ends, such as gabardines, fine serges, and similar fabrics. To prevent knot kinks in these fabrics, set the harness motion on the loom as far forward as possible. Run as much filling tension as the yarn will stand, but remember that too much tension may also be a cause of broken picks.

Adjusting the whiproll so that it is level with the breast beam will give the top and bottom warp shed the same tension and help to prevent knot kinks and also little skips. If the whiproll on the loom is higher than the breast beam, the top half of the warp shed will be loose and the bottom tight. Lowering the whiproll will reverse this and cause the top to be tight and the bottom part loose. Proper adjustment will make both the top and bottom shed have equal tension.

WHY SHOP FOR A BOILER??


10 ft. 1 in.
11 ft. 10 in.
12 ft. 2 in.
2 ft. 10 in.
7 ft.
2 in.
Illustration made from actual photo — taken at same time and in same scale — showing actual relative sizes of smallest and largest Cleaver-Brooks generators.
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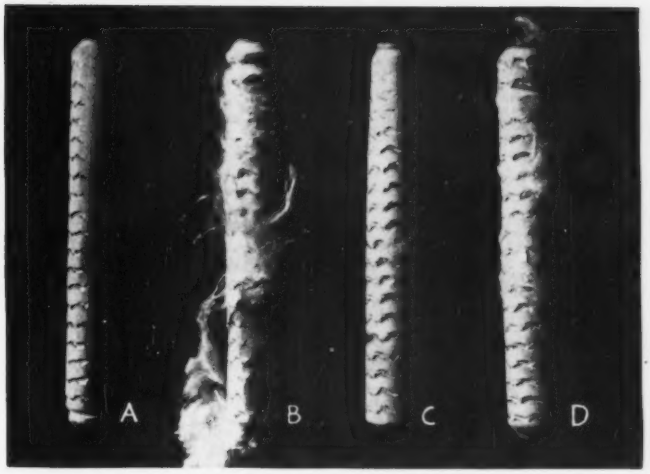
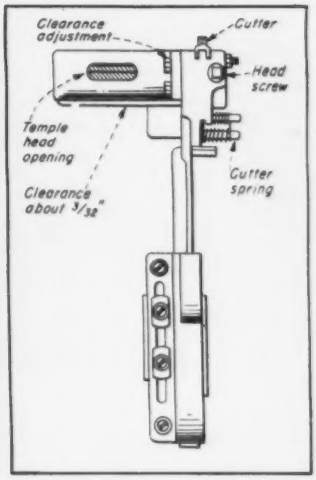


COMMON TEMPLE-ROLL DEFECTS: A, *worn flat because roll stuck;* B, *worn flat near one end because roll stuck in cap;* C, *worn to a taper at one end as a result of the cap pinching;* D, *roll filled with waste and damaged.*



THE HEAD SCREW in the temple housing should be used only for removing the cap in order to replace the rolls.

Causes of RAYON DEFECTS Are Frequently Confused

HIGHLIGHTS: *Short barre defects are often classed as temple-mark defects—Loomfixer may waste time on hopeless job—First step is to judge accurately the defect.*

By ALBERT FRANTZ

THE PROBLEM OF OVERCOMING temple marks can be simplified to some extent if the marks really are caused at the loom.

During inspection of gray goods off the loom, many cloth inspectors note on the defect report that certain looms should be checked for temple marks. Often the defects that show along the sides of the cloth are not temple marks, although they have the appearance of temple marks. Some of these imperfections are misleading. The sooner inspectors and fixers can distinguish between the real and the deceptive, the sooner steps can be taken in the right direction to overcome the trouble.

The problem of determining true temple marks is made difficult by short barré effects. Many times what appears to be a serious run of temple marks is actually a run of barré cloth.

While the most common runs of barré appear in the full cloth width, there are some forms that generally extend no more than the width of the temple. These are often confused as temple marks.

This form of defect shows as a series of tight and loose marks. The imperfection can be traced directly to the filling yarn.

Cloth inspectors must use good judgment in marking defects and flagging fixers. If the warp or filling yarns are responsible, there is little sense in flagging the fixer to "tinker" around the loom and lose time that could be put to better advantage elsewhere. "Tinkering" is the word, for no loomfixer can improve on the weave when yarn variation is causing a run of imperfections.

NEW FILLING. In a room where several styles and qualities of cloth are being woven, various yarns from different yarn-producing plants in different localities are often used. The yarns are not mixed but are put in at the cut-offs. At this time, a difference in filling yarns usually causes a slight change in the weave texture.

Closer study of the yarn numbers may account for the change. In one yarn, the filaments may number 40; in another, 120; and in a third, they may number 60 and may have a few turns of S or Z twist.

At present, there apparently are several imperfections that cannot be avoided in some rayon yarns. Some of these imperfections cause trouble in weaving operations.

The most serious fault seems to be heavy filaments in the higher-denier yarns spun without twist. When a soft fabric is designed, the desired effect may be more important than certain weaving defects that are unavoidable with a particular yarn. In such a case, the average fixer and cloth inspector may waste too much of their time in trying to eliminate many imperfections that cannot be prevented.

FALSE TEMPLE MARKS. When flagged for temple marks, a fixer should examine both selvages of the cloth.

(Continued on page 216)

Methocel:

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Methocel's thickening qualities are also widely used in the production of resin emulsions for creaseproofing textiles. Because of its thickening ability, Methocel provides effective control over the penetration of the emulsion into the fabric. Further, Methocel also acts as an ideal stabilizer in the resin emulsion itself.

Because it forms an excellent, tough, flexible film, Methocel is particularly valuable as a sole sizing agent or as a size modifier. Methocel reduces abrasion, minimizes friction and reduces loom stoppage.

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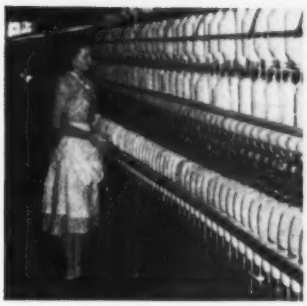


FAULTY SPINDLES emit a whistling sound and are spotted quickly at Greenwood Mills. Only 0.304% of the new-type spindle required rep'acement.

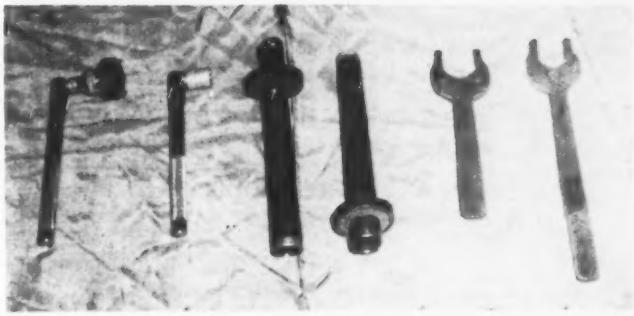
QUICK ASSEMBLY of the rubber-mounted spindle by J. N. Ringstaff simplifies replacement of one of the 45,800 new spindles at Greenwood.

PLUMBING by R. W. Martin takes 1 min. Through the use of special tools provided by the spindle manufacturer, the plumbing job becomes routine.

NEW SPINDLE Cuts Maintenance at Greenwood

HIGHLIGHTS: *New Era spindle, simple tools reduce skill necessary to plumb spindles at Greenwood Mills—Spindle replacement is 0.304% instead of standard replacement of 1.0% — Improved cleanliness and better tape performance result from 45,800-spindle installation.*

By L. J. WILLIAMS



SPECIAL TOOLS speed the plumbing process: (left to right) torque wrench to set rubber mount on spindle rail, torque wrench to plumb top of spindle, two plumbing bobs, two wrenches to plumb bottom mount.

SPINDLE REPLACEMENT at Greenwood Mills, Greenwood, S. C., was 0.304% instead of an expected 1.0% in an installation of 45,800 New Era spindles in Mathews and Greenwood plants. No lubrication is done by the mill. Spindle plumbing is simplified, requiring moderate rather than outstanding skill. In addition, the absence of oil around the spinning-frame parts helps room cleanliness and lengthens the life of tapes.

Greenwood Mills equipped the Mathews plant with a total of 28,800 New Era spindles, the first installation being made in December, 1946. The plant now has a total of 120 frames, with 240 spindles each, equipped to date. The Greenwood plant is equipped with a total of 17,000 new spindles.

REPLACEMENT LOW. Although Greenwood Mills has not run the spindles long enough to require repacking with lubricant, the company is experiencing good results in regard to the ratio of spindles requiring replacement as compared to the standard set up by Saco-Lowell Shops for a new installation. This standard for replacements due to faulty spindles is 1%. However, with a total of 28,800 spindles installed, the Matthews Plant of Greenwood Mills has found it necessary to replace only 100 spindles, which is a percentage of 0.304, or approximately one-third of the expected faulty spindles.

Detecting faulty spindles is done by section men at Greenwood Mills by noting wobbling yarn packages and by locating a whistling sound from the spindle. Defects are sometimes due to the balls within the bearings being worn or crushed. It is necessary to remove such spindles and put on new ones.

The construction of the spindle can be considered revolutionary in that the blade does not revolve, and in that the lubricant is said to last from three to five years without replacement. The spindle blade is secured to the rail by means of two nuts and is stationary. There is a set of ball bearings at the bottom and top of the blade. The metal cap or tube for the blade is pressed into the whorl, and these revolve on the ball bearings. The space inside the tube is filled with a metered amount of lubricant.

This construction eliminates the

(Continued on page 212)

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Physical	Bleaching	Dyeing
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VICARA BLENDS
Give Best Results

HIGHLIGHTS: *Fiber has several properties of wool—Excellent acid and alkali resistance reported—Data on dyeing characteristics still incomplete—Adaptable to processing on different systems—Outstanding drape and crease-resistance qualities—Priced at 83.2¢.*

By GRACE R. WILDERMUTH
Virginia-Carolina Chemical Corp.

VICARA IS A FIBER with distinctive properties, and best results with it so far have been obtained in blends. Vicara adds suppleness to rayon, a down-like texture to wool, and absorptiveness and warmth to nylon. It is not offered as a substitute for any of the fibers now in commercial use, either natural or man-made. Because of its protein base, it is more like wool than any of the other fibers.

Vicara is made of zein, one of the proteins of corn. Raw material is uniform and is obtained in the United States. It is not subject to wide price fluctuations. Vicara is now offered commercially after ten years of research and development. Protein fiber was produced experimentally four years before Virginia-Carolina Chemical Corp. in 1939 began investigating high polymers from protein bases. Development of the fiber has gone from the laboratory stage to a small pilot-plant scale, to a large pilot plant, and finally to a production plant in Taftville, Conn.

Acid resistance of Vicara is good. Concentrated solutions only weaken the fiber. Vicara's alkali resistance is amazingly good also. In blends with cotton, Vicara can be mercerized. No solvent has been found that will dissolve it. Water repellancy has been chemically built into the fiber and is resistant to ordinary dry cleaning, laundering, and dyeing. This water repellancy does not interfere with dyeing or other wet-finishing operations because its effect is lost at elevated temperatures and is apparent again upon drying. However, the fiber will not withstand kier boiling.

PROCESSING. The fiber is manufactured in tow form, and staple lengths from ½ in. to 6 in. can be supplied. It has been produced in deniers ranging from 1.5 to 10; but at the present time the only deniers available are 2, 3, and 4. These deniers compare to wool grades of 62s to finer than 80s. A crimp imparted to the fiber facilitates processing. Vicara can be processed on the cotton and woolen systems and on tow-to-top machines.

On cotton machinery, both conventional and long-draft systems have been used. When the fiber is handled alone in picker laps, some static is encountered. After blending with other fibers on the cards, static is not noticed in subsequent processes.

On the woolen system, blends with wool, rayon, and nylon have been processed. No difficulty has been met in mixing, carding, or spinning. Yarns have been both frame- and mule-spun. The finest yarn made was 7 run.

On tow-to-top machines, fine even yarns have been made by breaking the tow and drafting it in three to five subsequent drawings. These yarns have consisted of 100% Vicara and blends with wool, viscose, and nylon. Single 30s, cotton count, have been made.

Fabricwise, many types have been woven, knitted, and tested. They show good wearing qualities, excellent drape, crease resistance, and resistance to yarn slippage. Because of its draping qualities, crease resistance, and non-allergic qualities, the fiber can best be used in summer-suiting fabrics. Vicara is priced today at 83.2¢ per lb.

Condensed for quick reading from a paper delivered by the author before a recent meeting of the American Association of Textile Technologists in New York.

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Think what this means to you. It gives you many added man-hours which can be applied to other much-needed preventive maintenance work! The man-hour cost of lubrication slashed almost two-thirds! "Time out" for lubrication cut a like amount! Important productive time added to every machine! Whether your mill is large or small, these are profit-building advantages you won't want to miss.

Alemite's rugged, compact 25-lb. Portable Electric Powergun delivers fast, positive lubrication at pressures up to 5,000 lbs. Handles all lubricants that seek their own level.

Equipped with a husky ⅓ hp. motor, 6-foot high-pressure hose, and control valve with quick finger-tip adjustment for single shot or continuous flow. Comes with rubber tires or iron wheels, easy to roll even over rough floors and in cramped areas.

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Modern Lubrication Methods That Cut Production Costs

"Give us the tools . . ."

The 81st Congress Can Halt the Administration's *SOCIALIST PROGRAM*

In his speech at Massachusetts Institute of Technology, Winston Churchill said that America's possession of the atomic bomb is all that has kept Soviet Russia from overrunning Europe and bombing London.

Our State Department knows that there has been another deterrent to aggressive warfare by Russia and a deciding one. That deterrent is the superior industrial strength of the United States. But once Russia approaches our industrial strength, then watch out! For Stalin or no Stalin, there will be trouble. Therefore, the simple table below is worth every American's careful reading. It shows in percentages what Russia did with her national income in 1948 and what we did with ours:

	USSR	USA
Civilian use	60%	79%
New capital equipment and public works	21%	12%
Foreign aid		2%
Defense	13%	5%
Building of inventories and war stock-piling	6%	2%

These figures for Russia come from *The* (London) *Economist*, Britain's influential economic journal.

These figures are estimates based on information from behind the Iron Curtain, and so cannot be checked directly. But they fit with what is known of Russian development.

The table shows that Russia is straining every resource to build up its industrial strength. When Russia's effort is measured in *dollars*, and compared to ours, the figures show:

Where we spent $20 to $21 billion for new industrial plants and equipment last year, the Russians spent $12 to $14 billion.

But while we used about $9 billion of this to *replace* old equipment, the Russians spent no more than $2 billion for replacing old equipment. The Russians had much less worn-out and obsolete equipment to replace. They could concentrate their efforts on expanding their industries and buying new equipment.

So—we used only $11 to $12 billion to *expand* our industries.

And the Russians used almost as much to expand theirs—$10 to $12 billion.

Russia is gaining industrial strength as fast as we are—and may soon be gaining faster. The more she gains and the faster she gains on us, the greater is the danger of war.

continued on next page

American industry is pushing modernization and expansion hard. It is doing an heroic job. McGraw-Hill's recent survey* shows that *industry* already has in hand plans to build plants and buy equipment in the next five years adding up to $55 billion. Industry plans that investment—*and much more—if it can get the money.*

On those plans of *industry* depend *our* national security.

If these plans of ours are cut back, the Russians will be years closer to their goal of industrial equality—the strength that they need to wage aggressive war successfully.

But more and more our industry's plans are being menaced by socialist policies in Washington. The President continues to urge a further increase in the tax on corporate profits, even though federal taxes alone now take 38 cents of every dollar of profit. He wants $3 billion more in taxes on corporate profits now, plus added personal taxes.

Last year corporations spent almost two-thirds of their profits—about $13 billion—for new plant and equipment. This year corporation profits will be lower than last year's $21 billion, perhaps by 20 per cent. Subtract a fifth or more from last year's profits. Then adopt the President's proposal and take $3 billion more in corporate taxes and you raise havoc with planned expenditures for new plant and equipment.

Approval by Congress of the President's tax program would cut industry's program of plant and equipment development by a third or more. That means a major blow to our prosperity as well as our national security. For as capital investment goes, so goes general prosperity.

Further serious damage would be done by Congressional approval of the President's industry-control bill. The so-called Stability Act of 1949 (the Spence Bill) would severely check industrial progress. That bill would put the federal government in the business of providing the added industrial capacity which the tax program would prevent private industry from doing for itself. It would be hard to conceive a better and surer way to dry up private investment in new plant and equipment. For every dollar of government investment will scare away many times more dollars of private investment. People will not want to risk their money in businesses competing with the U. S. Treasury. At the same time it will attack private investment in another way. It means that government would spend your income for you instead of allowing you to spend or invest for yourself. That is the high and quick road to socialism.

American industry needs right now great courage and incentives if it is to carry out its tremendous building program. It needs also a release from the program of a socialist administration in Washington with its systematic discouragement of enterprise and risk taking.

Above all, industry needs assurance by the actions of the 81st Congress itself that there is a future in this country for a system of dynamic capitalism, functioning in a free society. By acting now to strengthen the American people's faith in their industrial system, by providing needed incentives for management and investors, by protecting industry's capacity to buy new equipment, the 81st Congress can sustain American industrial progress and keep us united and strong.

But if we kill freedom of industrial planning and action by unneeded taxes and government controls we put ourselves—and our friends all over the world—in dire peril.

Nothing would please the Communists more.

James H. McGraw, Jr.

President, McGraw-Hill Publishing Company, Inc.

***A complete report on our national survey may be obtained by writing McGraw-Hill Publishing Co., 330 West 42nd St., New York 18, N. Y. This is one of a special series of editorials on industry's needs for new plants and equipment.**

TEXTILE Equipment NEWS

McGlynn Hays Develops Bradford Spinning Machine

A new 400-spindle, dual-drive spinning machine for the Bradford system has been developed by McGlynn Hays Industries, Inc., Belleville 9, N. J. The machine, like the company's French-system model, has a rising-draft mechanism which causes the drafting elements to rise as the package is built. This feature permits larger packages to be spun on normal-size rings by making bobbins longer instead of thicker.

The Bradford machine has a two-stage draft field which provides normal drafts between 15 and 20, and in some cases even as high as 30. The practical limits in this connection are still not completely defined.

Break draft is 1.33, with the balance of total draft taking place in a secondary stage. The drafting field comprises eight lines of rolls. Pressure is applied to the back roll, intermediate roll, and front roll. The intermediate pressure roll acts in effect as the front roll of the break-draft section and also the back roll of the secondary-draft section. Rolls are readily adjustable to a maximum ratch of 8 in. in each draft section.

The draft in the first section starts the fibers in motion and loosens the twist, so that as the sliver passes to the secondary draft it is in a somewhat looser condition and more readily drafted, the company states.

The three pressure rollers are supported on pendulum arms to which pressure is again applied hydraulically. The carrier and slip roll as well as the fiber-control weight rollers are also in clips supported on the pendulum unit.

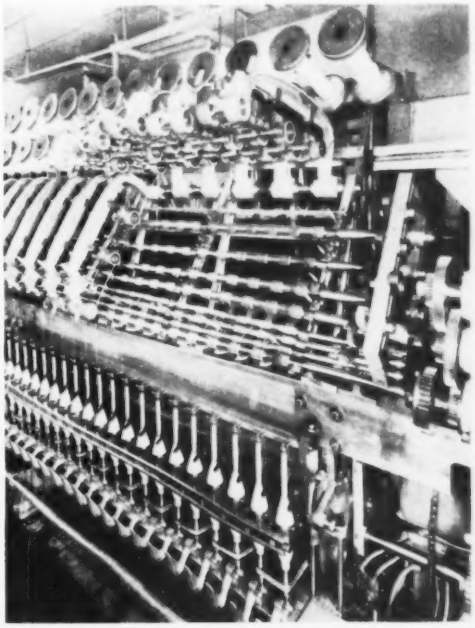
Besides flexibility of adjustment of ratch settings to meet the requirements of various staple lengths of the Bradford system, the pendulum arrangement is also said to make cleaning of the machine much easier. By releasing the pressure tie rod, the entire pendulum assembly may be swung up from the draft rolls, carrying with it all of the pressure and weight rollers and completely exposing the full set of bottom grooved rolls.

Higher drafts and better fiber control are said to be obtained with this system. The manufacturer states that it is generally possible to spin directly from the reducer or finisher spool, thus eliminating entirely the operation of the rover. The creel, therefore, is designed to carry up to a 10x5 size spool.

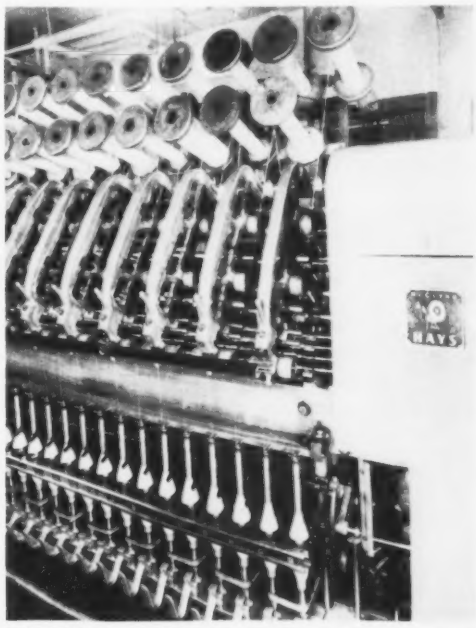
For further information, use the card on page C in the Reader-Service Department. (T-1)

Indicator Simplifies Drawing-In Operation

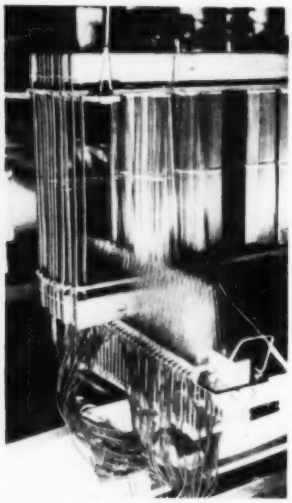
A heddle-indicating device which reduces the skill requirements of drawing-in has been developed by Titan, Ltd., of Denmark, and is available in this country through Edda Interna-



PENDULUM ARMS carrying pressure and step rolls may be swung upward from the lower rolls, facilitating settings and cleaning.



200 SPINDLES on each side of the machine are driven by separate motors.



PRESSURE ON THE HANDLE causes the top of the plastic fin in front of the next harness to be drawn-in to light up. No reading of drawing-in drafts by drawing-in hand is required.

tional Corp., 470 Fourth Ave., New York 16, N. Y.

The only skilled operation called for is the punching of a paper band according to the drawing-in draft. Only one repeat need be punched. The paper band is then placed in an indicating head and automatically indicates the heddle through which each end should be drawn. As the drawing-in hand draws in each end, the operator touches a lever which advances the tape and indicates the next heddle. No extra hand motions are required.

Indication is made by a non-dazzling light from the top of transparent plastic fins between which heddles are placed. The fin immediately in front of one harness lights up, indicating that the next end should be drawn through that harness. If an end from a second beam should be drawn, the tape can be so punched as to cause another fin to light up, signalling the drawing-in hand.

Models with 18 or 34 indicating fins are available. The punching machine is applied as part of the indicator unit.

For further information, use the card on page C in the Reader-Service Department. (T-2)

NEP COUNTS made with the template developed at N.C. State are more accurate and less fatiguing than those made by other methods.

Templates Facilitate Counting of Neps

New nep-counting templates have been designed and built at the School of Textiles, North Carolina State College, Raleigh, N. C., according to J. F. Bogdan of the Dept. of Textile Research. The templates are an early development of work on a research subcontract of the U. S. Dept. of Agriculture which deals with the study of neps in cotton processing.

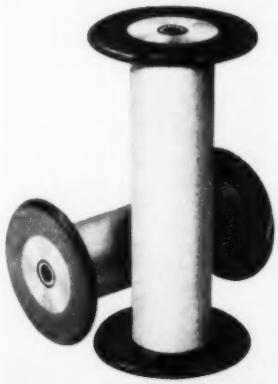
The device consists of a metal plate in which circular holes of 1-sq.-in. area have been cut. The back of the template has an undercut clamping arrangement to hold securely a velvet-covered metal plate 4 in. wide and 9 in. long. The sides of the bored holes are tapered, and the face of the template is covered with a baked black crackle finish to provide contrast and to eliminate glare. Circular holes are used because this figure has the smallest ratio of circumference to inclosed area, and thus keeps to a minimum the chances of neps falling on the edge of the inspection area. Plates with ten and 20 holes have been made.

In use, a sample of card web is taken in the usual way with a velvet-covered board; and the whole is clamped in the template. The neps in each square-inch opening are counted and recorded. Since the inspection areas are open, it is possible to inspect the material thoroughly, employing forceps or needles if necessary.

The fact that the openings are entirely separate from each other makes the task of the inspector less tedious. It has been found that inspection of webs by this method is less fatiguing and more dependable than by existing methods.

For further information, use the card on page C in the Reader-Service Department. (T-3)

Bobbin Has All Replaceable Parts



ANY PART of this new bobbin—head, barrel, bearings, etc.—can be replaced if damaged.

A spinning or twisting bobbin entirely new in design and construction is being introduced by Cloverleaf-Freeland Corp., Hazelton, Pa. In addition to resisting the "crush" of nylon or similar synthetic yarns, the new bobbin is said to be long-lasting, and is designed for high-speed operation.

Main feature of the new bobbin is that all parts are replaceable by the factory. There is no total loss if a head or spindle bearings become worn or damaged. Barrels are bakelite or aluminum, depending upon individual requirements. Heads are bakelite with metal inserts.

The new bobbin is well balanced at even the highest speeds, and is reported to be stronger, lighter, and far better in operation than bobbins now in use. The bobbin resists moisture, oils, and grease and can be easily cleaned, the manufacturer states.

For further information, use the card on page C in the Reader-Service Department. (T-4)

Capacitance Method Measures Fabric Wear

A convenient, nondestructive method for measurement of the abrasive wear of textiles has been developed

INDUSTRIAL THREAD *Package*

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Another exclusive SONOCO development is the SINGLE HEAD THREAD SPOOL – a practical carrier for industrial thread – having a flush base, tapered to permit smooth, uniform tension and delivery to sewing machines. Made in a range of base diameters and barrel lengths. Available with colored lacquer tips. For one time use.

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at the National Bureau of Standards, Washington, D. C., as part of a program sponsored by the Office of the Quartermaster General, Department of the Army. Depending only on the change in capacitance of the specimen with wear, the method is simple, rapid, and highly sensitive. As capacitance is measured without disturbing the specimen, readings may be taken at frequent intervals during a test, and the rate of wear thus evaluated.

The new method requires only three capacitance measurements to determine the extent of wear in a specimen over any interval of time. The electrodes of a precision capacitor are first adjusted to be slightly farther apart than the thickness of the thickest specimen to be studied. The capacitance C_a of the intervening air space is then measured. The capacitance C_o with the unworn specimen between the electrodes is next obtained, and finally the capacitance C_R of the abraded specimen. The measure of destruction or ruin, Q, is then given in percentage by the formula

$$Q = \frac{C_o - C_R}{C_o - C_a} \times 100\%$$

As the dielectric properties of textiles vary markedly with the percentage of absorbed moisture, the moisture content of the specimen should be kept constant throughout any given series of capacitance measurements by working in a conditioned room.

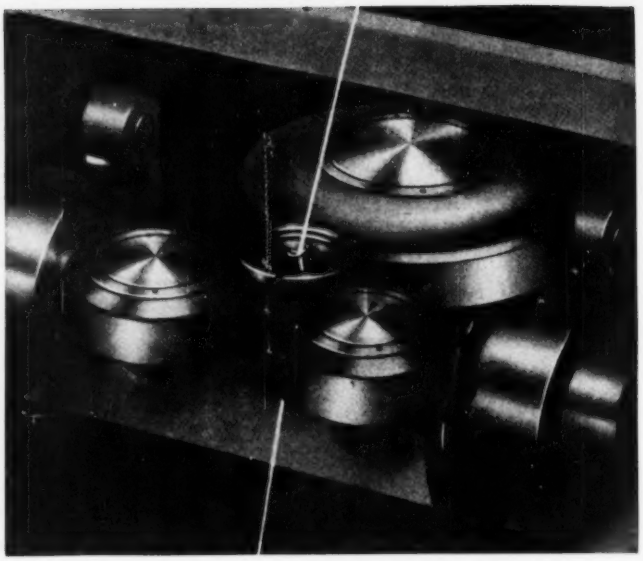
The bureau's apparatus employs a capacitor of the guard-ring type. In this device, a high-voltage electrode is supported at a fixed distance from a smaller measuring electrode which is surrounded by a guard ring to eliminate fringing.

The capacitance method has many applications in addition to its use for simple abrasion testing. It may, for example, be employed as a quick and accurate means for exploring the uniformity of textile materials. Also, it has been found very convenient for measuring quantitatively the wear of different parts of a garment that has been subjected to a service test.

For further information, use the card on page C in the Reader-Service Department. (T-5)

New Device Improves Yarn-Spinning Process

Increased production of better-quality yarn at higher spindle speeds are some of the advantages claimed for the Hegemax spinning system available through Salford Electrical Instruments Ltd., Silk St., Manchester, England. Arrangements are understood to be in the making for manufacture of the device in the U. S.



A PRELIMINARY TWIST is given yarn by this device mounted in place of the pigtail.

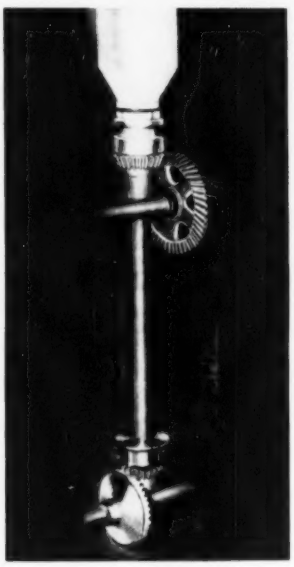
A device which replaces the thread guide inserts a preliminary twist, decreasing the tension between the guide and the front rolls by 40 to 45%. Mill tests are said to have shown reductions in end breakage of 68%, in yarn tension of 40%, in twist of 5 to 10%, in doffing of 10 to 35%, in labor of 15%, in cost of material of 3 to 7%. Also claimed are increases in spindle speeds of 10 to 25%, in production of 15 to 25%, in breaking strength of 5 to 10%, in elasticity of 7 to 10%, in weight of cops of 10 to 35%, in spinning limits of 25%, and in drafts of 10 to 20%.

A frame can be equipped with the device in 24 hr., it is claimed. The device is said to be applicable to all fibers.

For further information, use the card on page C in the Reader-Service Department. (T-6)

Ball-Bearing Bobbin Gear Needs No Oiling

New ball-bearing bobbin gears designed to operate at higher speeds with less noise, vibration, and maintenance have been developed by Comer-Whittier Shops, 308 Ivy St., N.W., Atlanta, Ga. A new method of driving is specially designed to take many times the normal thrust, and the bearings are permanently self-lubricated and sealed.



REDUCED MAINTENANCE is a major advantage of the ball-bearing bobbin gear.

The features do away with damage caused by oil being thrown on the bobbins.

The gear is of extra-hard steel and has cut teeth. Each gear is threaded and can be detached from the main assembly and replaced quickly. Upper portion of the assembly is aluminum.

The gear is claimed to be adaptable to any type roving frame. Mill tests

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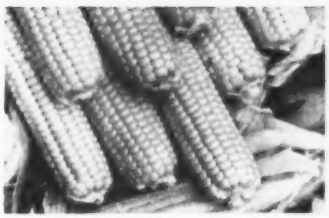

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are said to have shown reductions in maintenance and gear replacement.

For further information, use the card on page C in the Reader-Service Department. (T-7)

Uptwister Introduced By British Firm

THREE TYPES OF PACKAGE can be produced on this new British uptwister.

A new "light-package" uptwister for supply packages of 8 to 16 oz. marks the entry into the throwing field of Platt Bros. & Co., Oldham, England.

The standard model, built to insert any predetermined twist between 2½ and 70 tpi., operates on a wide range of different types of yarns.

The uptwister is a double-deck machine, each deck being driven by a separate motor independently of the other. The top tier is narrower than the bottom tier, allowing a better view of the bottom packages. At the same time, this method of staggering reduces risk of oil dripping and staining the yarn beneath.

The machine is built on a unit-construction principle, the number of spindles per unit varying according to the spindle spacing.

The twist gearing is equipped with centralized pressure lubrication. The machine can be arranged to produce three types of package (1) parallel cheeses, (2) parallel cheeses with tapered ends to eliminate sloughing, and (3) double-flanged bobbins.

An attachment, enabling either taper-ended or parallel-ended cheeses to be built, can be supplied. It is possible to run one deck on parallel cheeses and the other on taper-ended cheeses at the same time. Should taper-ended cheeses not be required, the uptwister can be produced without the individual building motions.

Cradles are independently mounted for ease of maintenance and are adjustable for the length of mandrel employed. Die-cast aluminum take-up drums are covered with cork compound and present an unbroken drum surface.

The take-up packages rest on the drums slightly forward of top center, thus insuring proper pressure throughout the build. This method of mounting also minimizes the length of uncontrolled yarn between the traverse guide and the take-up.

When producing taper-ended cheeses, the building motion operates independently at each spindle position, as the taper is controlled solely by the size of the package. This method makes it unnecessary to stop the machine for doffing. A new package can be started at any time on individual spindles without reference to the current position of the build on any other spindle. Means are provided for obtaining a slight adjustment to the initial length of the package on individual spindles.

The spindle pitch varies according to the package size, and every consideration has been given to the advantage of extra spindle capacity within standard machine lengths. The pitch can be reduced in the case of low spindle speeds and short cheeses.

Roller-bearing spindles, incorporating the latest manufacturing refinements for high speeds, low power consumption, and maximum stability when working under load, insure smooth running up to a speed of 15,000 rpm. Flexibly mounted, the spindle has a special type of synthetic rubber bushing which provides a full-floating element.

The spindles are driven independently for each deck. Lightweight, ball-bearing, idler pulleys are spaced behind the belt, one for every two spindles. Their diameter has been kept as large as possible to reduce their rotational speed and keep power consumption to a minimum.

For further information, use the card on page C in the Reader-Service Department. (T-8)

Improved Thread Counter Offered Cloth Handlers

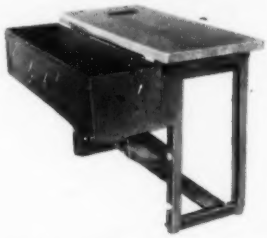
CONVERGING LINES in this device are said to indicate sley or picks accurately.

An improved vest-pocket-size counter that instantly and accurately reveals the number of warp ends and filling picks per inch has been developed by and is available from Micro-Lite Co., Inc., 44 West 18th St., New York 11, N. Y. Known as the Micro-Line Counter, the flat, 6¼-in. long instrument produces a sharp moire pattern against the weave of a fabric by means of converging lines engraved on the transparent field of the counter.

To those who handle fabrics and are concerned with construction counts anywhere from 20 to 300, the counter offers time-saving, eye-saving, and 100% accuracy, it is said. It will check instantly whether construction specifications have been met, whether gray-to-finished shrinkage estimates are correct, and whether fabrics are uniform from lot to lot. The manufacturer claims for it a high degree of accuracy and clarity, in contrast to an older French counter working on the same principle. Weave rooms, inspection rooms, finishing plants, and laboratories will find the instrument invaluable, the company says.

For further information, use the card on page C in the Reader-Service Department. (T-9)

Individual Trough Standardizes Work Bins



A NEW INDIVIDUAL TROUGH with mounting brackets for mounting on AMCO individual stands has been developed by American Safety Table Co., Reading, Pa. The new individual trough standardizes work bins throughout the sewing room, eliminating cluttering of floors and resultant confusion.

The individual trough is made of sturdy pressed steel and can be fitted to any size stand. Delivery is immediate.

For further information, use the card on page C in the Reader-Service department. (T-10)

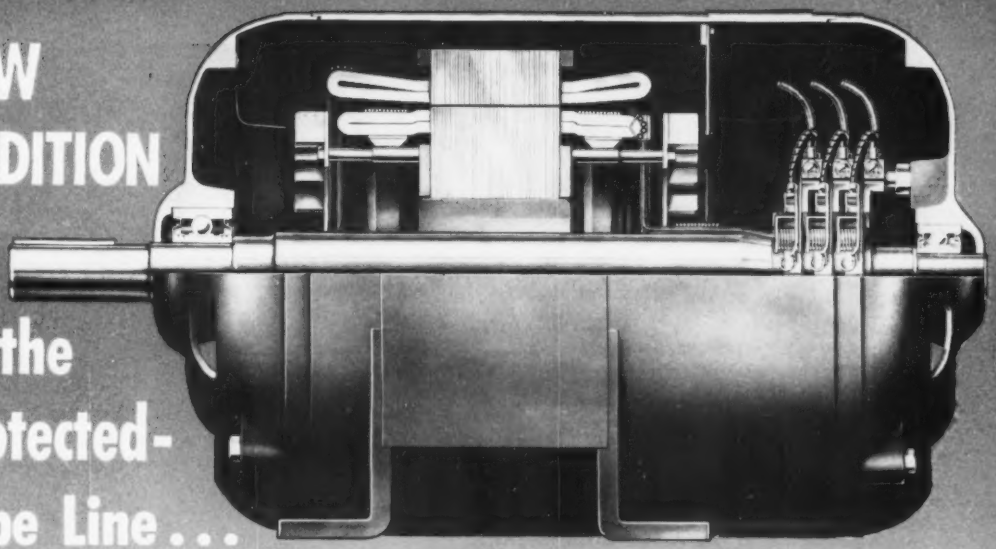
Tension Pulley Eliminates Collars and Lint Collection

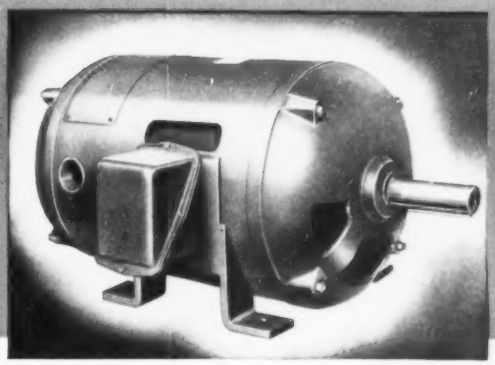
A new self-aligning aluminum tension pulley has been developed by Arguto Oilless Bearing Co. for use on Whitin Model A, D, and E wool spinning frames.

Designed to eliminate tape slippage and fraved selvages, the Arguto tension pulley has a 1¼-in. crowned face that keeps tape on center of pulley at all times. Extensive service tests are said to have proven that tape life is more than doubled.

Because there are no collars to collect lint, cleaning and realigning of

NEW ADDITION to the Protected-Type Line...





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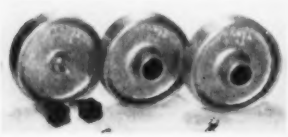


NO LUBRICATION is required for the bearings in this new tension pulley.

pulleys are eliminated. The pulleys help to maintain more uniform spindle speeds, thus increasing yarn quality.

The pulleys are free-moving on shaft and are designed always to remain in perfect alignment even when twist is reversed and always to carry the load evenly between bearings.

Made of cast aluminum accurately machined to 4-in. diameter and mounted on two Arguto oilless bearings, the pulleys require no lubrication.

For further information, use the card on page C in the Reader-Service Department. (T-11)

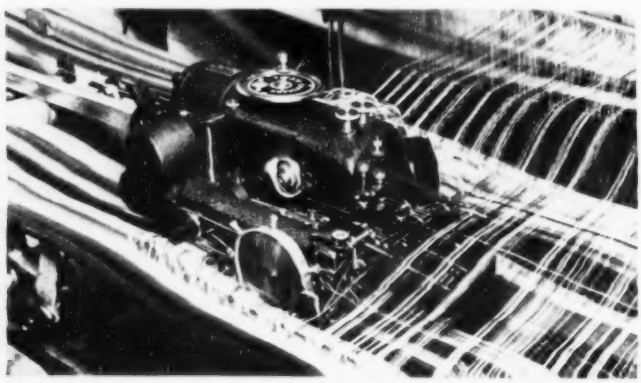
Wide Warps Tied With Single Preparation

A new Danish warp-tying machine which can handle an entire warp up to 110 in. wide with a single preparation is available through Edda International Corp., 470 Fourth Ave., New York 16, N. Y. The Titan Machine can handle warps of any fiber and warps with or without a lease. The machine can be operated as either a stationary or portable unit. Speed is 6,000 to 18,000 knots per hr.

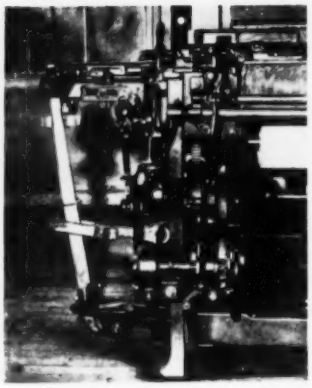
Other important features are automatic adjustment of the position of the machine in relation to the warp, automatic indication of double ends in the lease in cotton and worsted warps, and automatic selection of the threads to be tied. The latter feature permits the machine to be so adjusted that the end-selecting mechanism will make as many as five attempts to select the required thread. The machine is fitted with a stopping device which can automatically stop the machine after a few attempts to select the thread have failed because of faulty yarns or bad preparation.

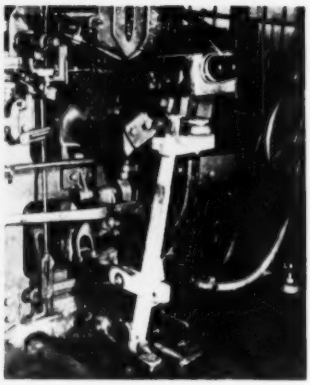
The machine is furnished with a complete set of tools and needles.

For further information, use the card on page C in the Reader-Service Department. (T-12)



HIGH-SPEED KNOT TYING is featured by this Danish-made warp-tying machine.





BETTER SHUTTLE CHECKING is said to result from use of this new checking device which replaces check straps. Device may be mounted on single-shuttle (left) or box looms (right).

New Loom Device Eliminates Check Strap

A new picker-stick check motion has been developed by Precision Research Corp., Charlotte, N. C. The new check motion completely eliminates check straps on regular looms and is said to modernize the present checking movement on box looms.

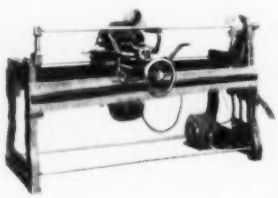
The device is said to protect looms against serious slam-off damage. More accurate boxing of the shuttle is claimed, as well as elimination of shuttle bounce. The device also permits the loom fixer to lighten the power on the loom. The device is a permanent part of the loom and is said to last the life of the loom.

Installation of the device tends to lengthen the life of the shuttle, shuttle box, picker stick, and picker, it is claimed.

The patented device is being tested at Dan River Mills, Kendall Mills, Highland Park Mfg. Co., Wennonah Mills Co., and Brown Mfg. Co.

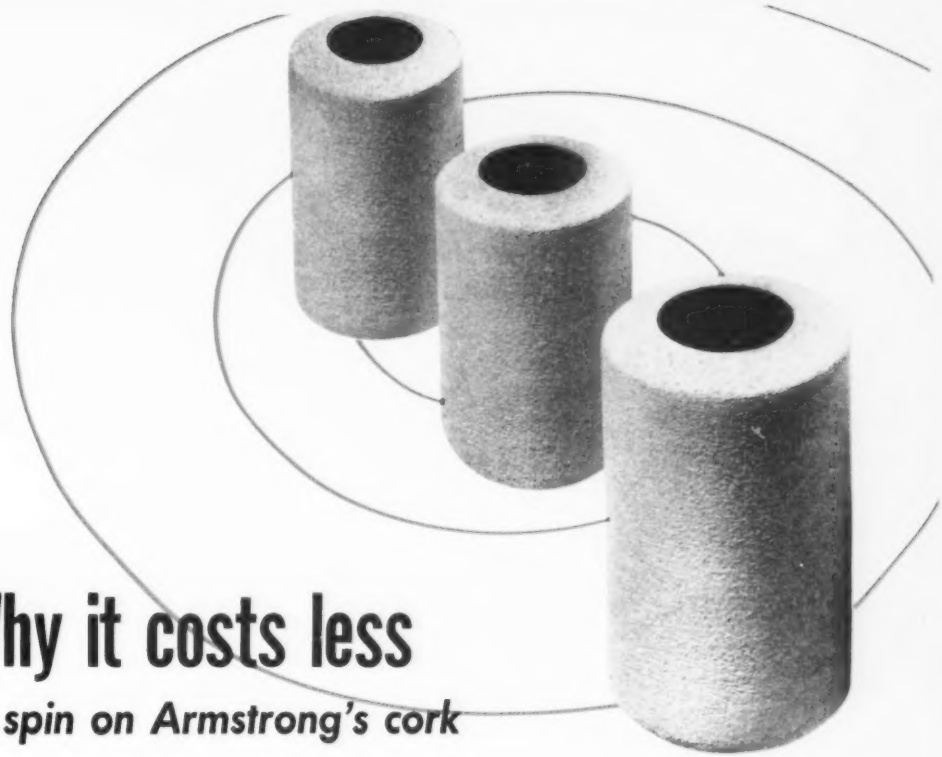
For further information, use the card on page C in the Reader-Service Department. (T-13)

Slitting Machine Designed For Heavy-Duty Work



A 72-IN. ROLL can be cut by the 15-in. knife on this new slitter.

A new automatic Judelshon heavy-duty No. 360-A slitter has been introduced by B. J. Philips Co., 475 Fifth Ave., New York, N. Y. The new



Why it costs less

to spin on Armstrong's cork

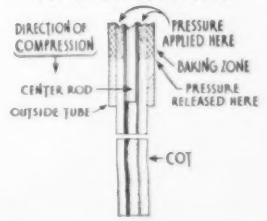
It costs less to spin on Armstrong's Cork Cots because these covers are low in initial cost and have an extra long service life. In addition, Armstrong's Cork Cots reduce assembly costs as much as 50% because they are seamless and pre-glued.

These cost-saving Cork Cots also eliminate eyebrowing. Their highly frictional surface carries loose fibers well back on the clearer boards. Thus clearer picking is reduced and there are fewer slubs. At the same time, Armstrong's Cork Cots reduce clearer waste as much as 50%, giving cleaner running work.

Because Armstrong's Cork Cots are naturally resilient, they recover quickly from most hard ends and laps. They grip the yarn evenly and spin a strong, uniform yarn. Armstrong's Cork Cots can be rebuffed as many as five times.

Get all the facts about these economical cork cots from your Armstrong representative. Or write today to the Armstrong Cork Co., Textile Products Dept., 8306 Arch St., Lancaster, Pa.

Extrusion Process Produces Seamless Cork Cots



Armstrong's Cork Cots have no structural weakness to cause premature breakdown. Each cot is uniform in density from inside to outside, from end to end. Each compresses evenly, spins stronger yarn.

ACCOTEX IS A REGISTERED TRADE-MARK.

Better running work . . . more poundage

ARMSTRONG'S CORK COTS

ACCOTEX COTS • ACCOTEX APRONS

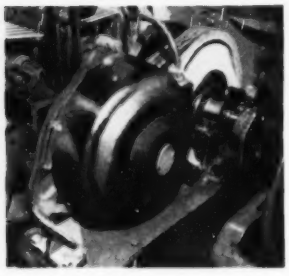
model has been especially developed for cutting 60-in. material into trouser waist-bands, bindings, ribbons, shoe trimmings, welting for furniture and automobile furnishings, typewriter ribbons, etc.

Special features include a 15-in. knife to cut a 12-in. diameter roll; automatic feed for slicing the entire roll into accurate sections up to 4 in. wide, ability to cut the entire roll before removing the slit material; variable-speed drive; forward or reverse motion for best cutting results; silent sealed ball bearings throughout; automatic locking device that operates when cutting to guarantee true cuts; reinforced shafts plus an extra-heavy cast frame weighing 2,000 lb. to prevent vibration or sway.

Present delivery is 5 to 6 weeks.

For further information, use the card on page C in the Reader-Service Department. (T-14)

V-Belt Drive Adaptable to Any Loom



V-BELT LOOM DRIVE can be adapted to any type of loom without moving looms.

A new V-belt loom drive said to be adaptable to any make loom and available in sufficient capacity to cover any normal requirements has been developed by Owen-Richards Co., Inc., Birmingham 4, Ala. Various mounts are available to suit the needs of individual mills. The conventional motor position can also be used without moving looms which are at present belt driven. The drive may also be used with the Draper clutch adapted to handle the sheave rather than the gear. In mounting, little or no change is necessary on the loom itself beyond the drilling of holes to mount the motor bracket. The shifting mechanism of the clutch is adaptable to the present shipper handle on the loom, and the loom operates in the same way that it does with a belt drive. Maintenance on the clutch is reduced to a minimum in that there are no toggles to adjust, take-up being made by turning a single knurled nut. Placement of the clutch lining is made easy as the lining is split in half and may be changed in a matter of minutes without disassembly of the clutch.

For further information, use the card on page C in the Reader-Service Department. (T-15)

Roller Bearings Used in Spindle Bolsters

Spindle bolsters manufactured by SKF Industries, Inc., have been selected by Whitin Machine Works, Whitinsville, Mass. as standard equipment on all spinning-frame units for which antifriction bearings are specified.

Two types of spindle bolsters, whose blades and cases were developed by Whitin, will be used on spinning frames.

One is a cylindrical unit that has a long, flat spring mounted on the bolster section contacting the case's inner surface. The spring, together with the oil damping of the sleeve, is designed to provide the flexibility and "cushioning" necessary for smooth-running operation. This type of bolster is especially adaptable for use where bobbin loads are well balanced.

The other unit, known as an oil-cushion, ring-brake type of bolster, consists of a series of ring surfaces mounted in oil and a spherical head in a spherical seat at the top of the case. The bolster is held in position within the seat by spring pressure which provides the flexibility needed for unbalanced loads frequently found in wooden bobbins. The spherical mounting and the immersion of ring surfaces in oil are said to provide a most effective damping system.

Oversize roller bearings give both types of bolsters greater capacity than similar-size bearings, while the use of heat-treated chrome steel keeps blades straight.

Other advantages claimed for the roller-bearing spindle bolster, in addition to providing a better twist of yarn, are substantial power savings resulting from the elimination of frictional drag, higher yarn-breaking strength, fewer ends down, and elimination of oil throwing.

For further information, use the card on page C in the Reader-Service Department. (T-16)

Tachometer Designed for Various Applications

A new friction-drive tachometer so designed for all types of lineal applications in textile mills has been developed by Durant Mfg. Co., Milwaukee, Wis.

The lineal tachometer is designed to eliminate all of the exposed, difficult-to-mount, external gearing of the standard type of tachometer. There is no flexible cable to wear out or get in the way. The new unit also eliminates the necessity of having a tachometer for each particular application. The lineal tachometer is universally applicable and can be readily moved from one point to another. This feature provides for complete interchangeability of tachometers throughout the plant. Some maintenance problems are thus eliminated.

The tachometer is so designed that the head can be rotated through 360° to provide for reading from any position. The bracket and swivel hinge allow for unlimited vertical and horizontal positioning of the tachometer. The Model 1646 tachometer is available in standard units with dial ranges of 20 to 200 yd. per min. and 60 to 600 ft. per min.

For further information, use the card on page C in the Reader-Service Department. (T-17)

Useful Accessories FOR TEXTILE MILLS

Salt-Tablet Dispenser

An improved dispenser for salt tablets has been developed by International Salt Co., Inc., Scranton, Pa. The new dispenser, made of extra-strong plastic in a blue color, holds 1,500 10-grain tablets and may also be used for 9-grain tablets. A window shows the supply level, and a knob dispenses one tablet at a time. The dispenser comes complete with mounting bracket and free posters on heat safety. (U-1)

New Arc-Welding Electrode

A low-hydrogen type of coated electrode designed to prevent underbead cracking in weld deposits has been announced by Air Reduction Sales Co., 60 East 42nd St., New York 17, N. Y. The electrode operates on either a.c. or d.c. and is designed to give welds of 100,000 psi. It is anticipated that

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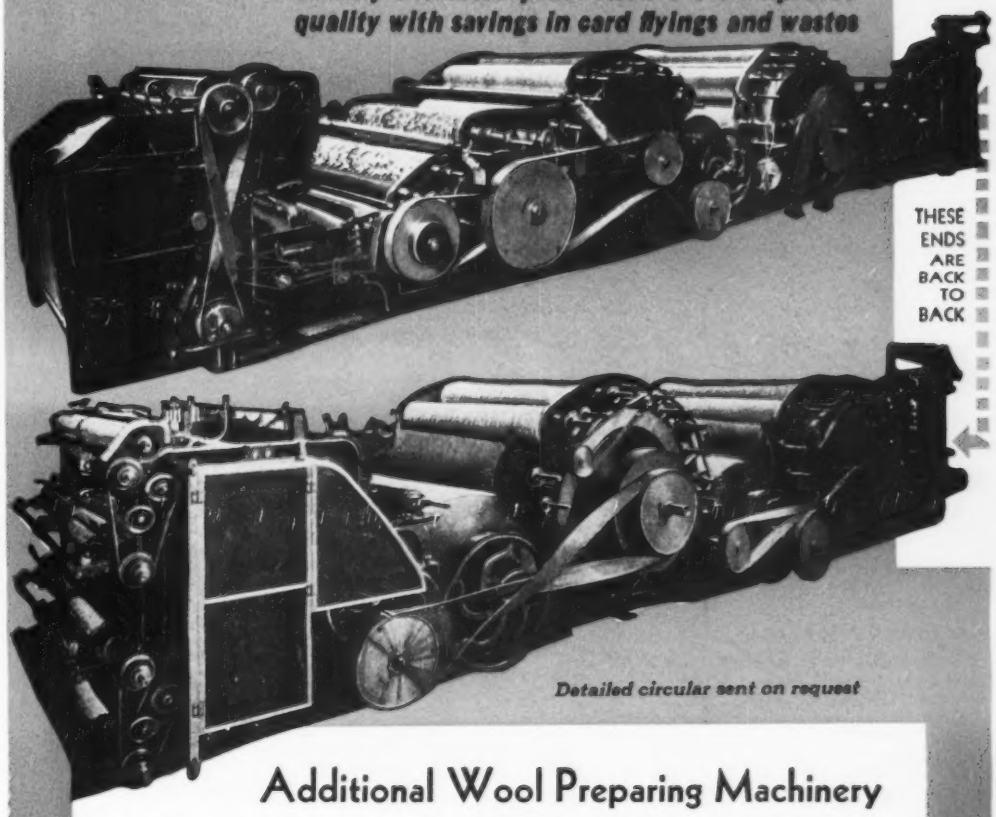
for the manufacture of Fine, Medium and Carpet Wools

Greatly increased production . . . improved quality with savings in card flyings and wastes



Detailed circular sent on request

Additional Wool Preparing Machinery

Oiling Device • Mixing Picker (Fearnaught Type)
Picker Feeders • Automatic Card Feeders
Patented PERALTA Machine
Intermediate Center Draw Broad Band Feed
Tape Condensers
Woolen Cards with Two, Three and Four Cylinders

Duesberg-Bosson of America, Inc.

FITCHBURG, MASSACHUSETTS

the electrode will find a wide market in the fabrication of hardenable steels which are susceptible to cracking when conventional types of electrodes are used without preheat. (U-2)

Magnetic Motor Starter and Contactor

A new magnetic motor starter and magnetic contactor designed to give maximum protection to alternating-current motors up to 50 hp., 440 v., has been announced by Trumbull Electric Mfg. Co., Plainville, Conn. Bimetallic relay heaters are easily adjusted for automatic or manual reset. Coil windings are encased in plastic for greater protection. The unit, which comes with silver contacts, is said to provide long contact life, great protection, and quiet operation. (U-3)

Electric Hoist

Another series of electric hoists made in capacities from 1,000 to 20,000 lb. with an unusual degree of safety, efficiency, and ruggedness has been announced by American Chain & Cable Co., Inc., York, Pa. The design incorporates all-steel construction and gear train plus performed cable and swaged-on cable fittings. The hoist can be furnished for practically all voltages and frequencies. It is available in lug, hook, plain, or geared Timken trolley. (U-4)

Illuminated Drawing Boards

Two new illuminated drawing boards designed to simplify tracing of illustrations, lettering, and designing of ruled forms on stencil sheets have been announced by A. B. Dick Co., 720 West Jackson Blvd., Chicago 6, Ill. Model 4 is an inexpensive, lightweight, portable model. Model 5 is recommended for precision drawing, lettering, and forms. This latter model features fluorescent lighting, new-type stencil clamps, and new slot-type positioning for the stencil. A tilting base for sit-down operation is also available with Model 5. (U-5)

Heavy-Duty Platform Truck

Capacities up to 6,000 lb. are attainable with a new platform truck now being produced by The Rapids-Standard Co., Inc., Grand Rapids 2, Mich. The maximum load capacity quoted is with micro-steel wheels. With rubber wheels the capacity is 2,960 lb. The truck is available in level or tilt type. (U-6)

Lightweight Lift Truck

A gasoline-powered fork lift truck of unusual design is now being manufactured by Transitier Truck Corp., 2477 N.W. 23rd Ave., Portland 10, Ore. Total weight of the 1-ton-capacity truck is approximately 3,000 lb. Both this model and a ½-ton model are available in 5-, 7-, and 9-ft. lift heights. Other features are full pneumatic tires, 26-hp. engine, and 61-in. turning radius. (U-7)

Chain Vises

Two new chain vises designed to simplify the process of taking roller chain apart have been announced by Chain Belt Co., 369 Plainfield St., Springfield 2, Mass. Vise No. 1 is for single-width roller chains from ¼- to 1-in. pitch and double-width roller chains D-40 and D-50. Vise No. 2 will handle single-width chains from 1- to 2-in. pitch and double-width chains from D-80 to D-160. Both vises are easily adjusted to fit chains within their range of sizes. (U-8)

Industrial Fluorescent Unit

A heavy-duty fluorescent unit which features a spring action to keep lamps from falling because of vibration has been announced by Bright Light Reflector Co., Fairfield and State Sts., Bridgeport, Conn. A slide-grip hanger groove runs the entire length of the unit and permits wide versatility of installation. Disassembly of reflector from hood is accomplished quickly with an easy-locking device. (U-9)

Slip-On Extensions for Lift Trucks

A line of slip-on fork extensions which makes it possible to handle loads of different lengths with the same fork truck has been made available by Lewis-Shepard Products Co., 271 Walnut St., Watertown 72, Mass. The extensions are for use with the Standrive line of power fork trucks. When longer loads need to be handled, the extensions are placed over the forks already mounted on the truck. Various styles of ends are available for handling pallets, rolls, bags, or loose materials. (U-10)

New Banding Equipment

A new line of strapping, seals, tensioners, and sealers, together with other necessary accessories for use in banding all types of packages, bales, boxes, bundles, and pallets has been introduced by Allegheny Steel Band Co., Carnegie, Pa. The main product is a strapping made from high-tensile, cold-rolled strip steel. Special wagons for carrying this equipment to out-of-the-way places are also manufactured. (U-11)

Rotating-Type Regulator

An automatic rotating-type regulator which can be made to handle any motor or generator field directly without resorting to use of a separate counter-emf. motor-generating set has been developed by Reliance Electric & Engineering Co., Cleveland, Ohio. Need for the separate set is eliminated by addition of a low-voltage reference generator to the regulator set. The unit is especially recommended for textile applications where constant-tension or torque winding and constant-tension letoff are desired. (U-12)

All-Weather Cab for Lift Trucks

A weather-tight cab for driver protection can now be obtained on the Yardlift 40 and 60 models of fork trucks made by Clark Equipment Co., Battle Creek, Mich. The cab is constructed of heavy-gage sheet steel and has ample windows for all-round vision, including a plastic roof window for high tiering. Deluxe accessories include windshield wipers, heater, defroster, and air-cushion seats. (U-13)

Centrifugal Pump for Clear Liquids

A new centrifugal pump designed for use with clear liquids has been announced by Goulds Pumps, Inc., Seneca Falls, N. Y. The pump is suitable for water supply, circulating, transfer service, air conditioning, irrigation, and similar uses. It is available in 14 sizes for both motor and belt drives. Capacities from 10 to 1,800 gal. per min. can be attained with heads up to 120 ft. (U-14)

Dry-Chemical Fire Extinguisher

A new type of dry-chemical fire extinguisher has been announced by American-LaFrance Foamite Corp., Elmira, N. Y. Advantages claimed include: longer range, longer duration of discharge, more complete connections, and lighter weight. The chemical is nontoxic, noncorrosive, and will not conduct electricity. The unit is recommended for flammable liquid and electrical fires. (U-15)

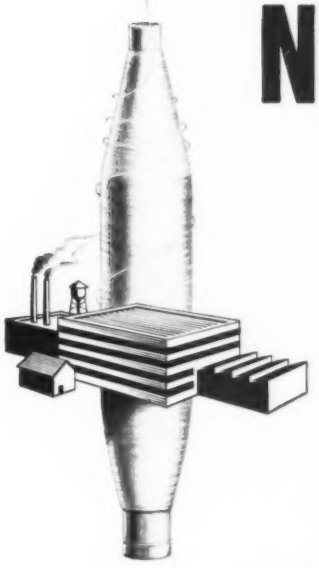
A. C. Magnetic Starters

Another line of a.c. magnetic starters is now being produced by General Electric Co., Schenectady 5, N. Y. Designed for starting and protecting motors up to 50 hp., the new full-voltage starters are furnished in all N.E.M.A. sizes from 0 through 3. The contactors can be furnished in sizes from 00 through 3. The starters are available either open or mounted in various enclosures. (U-16)

Rotary Steam Joint and Drainage Siphon

A rotary steam joint which is said to be steam-tight and to require no lubrication nor adjustment for wear has been announced by The Midwest Fulton Co., Dayton 2, Ohio. A drainage siphon which has a flexible hose joint to enable the suction pipe to maintain proper clearance between siphon opening and inner surface of the can is also in production. (U-17)

NOPCO* 1656-R
is a must



And by "this" we mean WORSTED yarn. Here we can represent it only as a line . . . but, as you know, it's a line full of significance. For top quality WORSTED yarns, economically produced, mean enduring customer satisfaction, increased sales, greater profit.

And that's where Nopco's NEW 1656-R fits right into your WORSTED production picture. For here's an oil specially formulated to *assure more efficient processing . . . superior quality finished goods.*

You will find Nopco 1656-R:

ELIMINATES static

ELIMINATES oxidation

ELIMINATES *75%* of soap costs (and, by scouring out freely, assures clearer, brighter dyeing)

MINIMIZES broken ends

In a word, Nopco's NEW 1656-R enables the worsted manufacturer to achieve *outstanding results*—comparable to those obtained by users of famous Nopco FUA wool oil in carding, spinning and finishing woolens.

Write us today, and profit by getting all the facts about NEW Nopco 1656-R . . . the remarkable modern aid to better WORSTED production.

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How the Management Team Can Build Better Human Relations

By **GLENN GARDINER**

Pointers FOR SUPERVISORS

Teach Workers "Why" To Get QUALITY

HIGHLIGHTS: *Worker must know where his job fits in, why quality is important—Proper instruction when starting new worker will pay off—Point out advantage to workers of keeping defects down.*

GLENN GARDINER

The little boy who had never been to the country before went out exploring the countryside. He saw the blacksmith shoeing a horse. He came rushing into the house.

"Say, auntie, whatta you know!" he exclaimed. "I just saw a man making a horse. He was nailing the feet on when I got there."

Some employees' ideas of the product they help make is just as limited as this little boy's knowledge of horses. Even though they see the finished product, they do not know where or how their own operation fits in. For instance, here are two comments from a group that went through a mill where they had been employed for some years: "I always thought there were only two or three steps to finishing cloth after it was woven," said one. "After seeing all the operations and all the work that goes into a piece of cloth, I can't understand how it is possible to sell it for the price we do," observed another.

When we try to instill the quality idea, it's particularly important that employees have some conception of the part they are playing. "A better understanding of the other fellow's contribution to quality material," was the way another member of this group put it.

Quality at Lowest Cost

You may not always be able to take your employees through the mill to make them quality-conscious, but you can explain the different operations to them. In the textile industry, it is usually quite easy to get the finished product to show to employees.

You can point out quality defects in the finished product. Give employees explanations on how such defects are caused. Show how the work done by departments ahead of yours influences the work in your own department. Make clear how your employees can facilitate the work of departments that follow by turning out quality work.

Human Relations and Quality

Likewise, the human relations factor in producing quality workmanship is in the hands of the supervisor. Here are some points that will help you handle your quality problems:

"There's no time like the first time," when it comes to learning to do a job right. If a man is not impressed with "quality first" when he is started on a job, it will be much more difficult to impress him properly later.

A supervisor makes a bad mistake if he merely instructs a man in *what* to do, without also giving thorough instruction in *how to do it right*. Leaving quality instruction until later is expensive and wasteful.

Five minutes of instruction on quality requirements at the beginning of the day may save hours of time and many dollars worth of material and equipment later.

Get at the Real Cause of Poor Quality

Until you have the facts about the causes of substandard quality, there is little you can do to improve quality. Go after the real causes. Ask yourself why. Dig down deep. Follow one trail at a time clear to its source. Get all the evidence. Get the opinions and viewpoints of others, especially those of the workers immediately concerned. Investigate carefully machines, tools, equipment, and methods. Analyze each operation individually in all its details. Pay close attention to the individual operation inspection. Find out just where in the process the trouble occurs.

If you jump to conclusions, you will not discover the real cause. Until you discover the real cause, quality will continue to be substandard.

Possible Causes

The first thing to do in investigating a situation is to be sure you have a definite idea of just what you are looking for. Consider all the possible causes of poor quality when you start your search. Causes against which you might check poor quality are:

1. Quality standards not definitely set.
2. Standards not properly expressed.
3. Employees not familiar with standards.
4. Specifications not clear.
5. Poor material.
6. Wrong equipment or equipment not in proper condition or adjustment.
7. Wrong attitude of employees.
8. Careless or insufficient inspection.
9. Slack supervision.

Applying the Remedy

Once the cause of poor quality has been determined, the remedy is usually obvious. The remedy should be applied promptly and thoroughly. Then close follow-up should determine that the remedy is getting the results in proper standards of quality.

Impress on employees that wages come out of dollars received from customers. The dollars that come from customers depend upon quality of products, cost of products, and service to the customer.

Companies that are able to deliver quality products are in a better position to pay high wages.

Your employees are the customers of somebody else's employees. If they pay more for products they buy and get less in return for their money, they will be dissatisfied.

Exactly the same thing is true in the case of a company. If it pays higher wages and gets less service in return, it hurts. If a company increases wages and does not receive comparably better output, it can't compete successfully with the company that gets better quality for its increased wages.

Sell Workers on Quality

Quality workmanship cannot be forced out of a man. He must be sold on doing quality work. He must believe in quality. He must be made to see what advantages he will gain by doing quality work.

This is where the fine points of good supervision come in. The supervisor who can sell his workers on doing high quality work for good wages is helping to insure the future of his own job and the jobs of his employees.

FOR ECONOMY

FULLER TEXTILE BROOM

Fuller Textile Brooms represent outstanding values at today's prices because they outwear ordinary brooms at least FOUR to ONE. Specially selected combinations of tough, pliable and resilient fibers are cemented together and encased in a light metal shell by five rivets. Two more rivets permanently fasten the hardwood handle to the shell.

The longer life of the Fuller Textile Broom reduces your daily cleaning costs substantially . . . makes Fuller your most economical broom-buy.

Phone your local Fuller Branch Office or write

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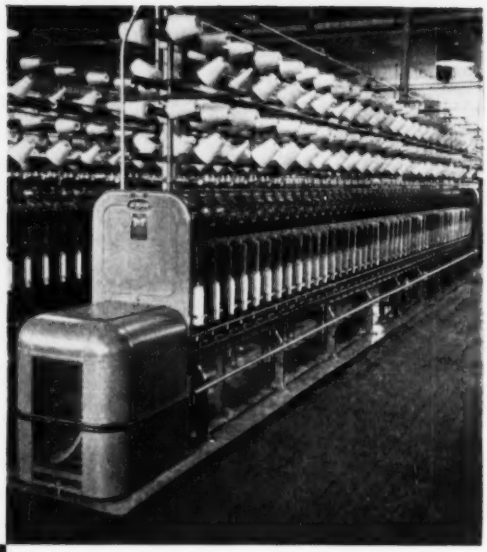
IN CANADA: FULLER BRUSH COMPANY, LTD., HAMILTON, ONTARIO

It Twists

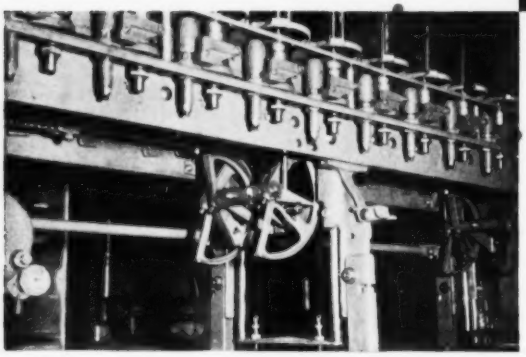
NATURAL

AND

SYNTHETIC YARNS



The Atwood Model 10 Ring Twister is a completely modern machine, sturdily constructed, and designed to produce plied yarns of cotton, woolen and worsted; spun rayon, filament rayon, nylon and combination yarns. Around a basic design that has proved highly successful over the years, the machine has been redesigned for smoother running, reduction in maintenance, and greater ease of operation.



The sturdy lifter rods, designed with oilless metal bushings, assure smooth ring rail traverse and require a minimum of maintenance. One long-wearing endless, lapless belt for all spindles, eliminates sewing or tying of tapes. Automatic stop motion for each end and ply prevents roller laps and allows piecing up of single ends. Knee brakes are eliminated.

With a Sharp Eye on Costs

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Winding and Twisting Machinery for Natural and Synthetic Yarns

Model 10 *automatic stop motion for each end and ply*

Kinks AND SHORT-CUTS

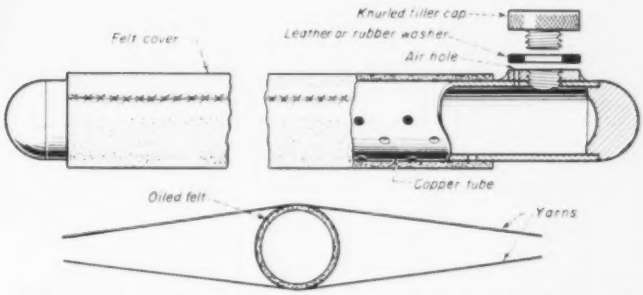
Yarn Lubricator Fits Any Machine

PRIZE WINNER FOR JUNE
(March contest)

Having trouble with kinky, brittle yarn?

Here's a gadget that will help you do something about it. These tube adapters for lubricating yarn probably wouldn't be practicable in a cotton or rayon weaving mill, but they would be in many other applications.

For example, on a narrow-fabric loom where synthetic warp yarn is kinking or where no-twist yarn is losing filaments, one of these tubes may be the answer. Another application might be the decorative ends in a worsted fabric. Still another might be in winding fairly small runs of yarn. One of the best applications might be on circular knitting machines where unruly yarn needs to be relaxed right on the knitting machine.



A YARN LUBRICATOR for use on nearly any machine can be made as shown here. It consists of a closed copper tube to hold the lubricant and feed it through small holes to a felt cover. Yarn runs against the cover and picks up the lubricant.

Basically, the yarn-lubricating tube is nothing but a perforated tube that holds the yarn lubricant. A felt cover over the tube transfers lubricant from the tube to the yarn.

The tube is a small copper tube of any length needed. It can be short enough for a single warp band on a narrow-fabric loom or a single end on a knitting machine. Or it can be long enough to extend through a whole loom warp as a lease rod does. Small holes are drilled at intervals along the tube.

The ends of the tube are filled by turned copper caps soldered in place. At one end of the tube, a hole through which the tube can be refilled is provided.

This hole is constructed as follows: A brass washer, with one side shaped to fit against the tube, is soldered to the tube, flat side up. The washer and tube are then drilled through and threaded to receive the knurled screw shown in the sketch. A leather or rubber washer is used under the screw to make the hole airproof.

(CONTINUED ON NEXT PAGE)

Below is announcement of a greater KINK CONTEST you can enter NOW. Kinks to be published starting with the July, 1949, issue will be judged as outlined in the rules below.

$200 for Best Kink in 1949
$25 for Best Kink Each Month
In Addition to Space Payment on Acceptance

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Send in your kink now. There is always a contest going on. The more good kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every kink accepted.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it — we will pay you extra if you do and we can use it.

Look over the kinks in this and other issues. You will get ideas you can use as well as inspiration for kinks you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit — anything that will cut costs, improve quality, or help production.

Your published kink will be judged impartially by other mill men. In case of ties, duplicate prizes will be awarded.

RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month. $200 prize contest for the year. Monthly contest confined to kinks published that month, yearly to those published in calendar year 1949.
3. All kinks paid for on acceptance, extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to kink when published.
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When the hole is completed, drill a small air hole through one side of the copper washer and tube. When the knurled screw and leather or rubber washer are run down over this hole, no air is admitted to the tube. If increased flow of lubricant from the tube is desired, loosen the knurled screw and admit air through the hole.

The felt cover can be a tubular piece of felt pulled over the tube, if one is available. If not, a flat piece of felt can be wrapped around the tube, with the joining ends at the top of the tube, and sewed.

The tube is now ready for use.

Soak the cover with the yarn lubricant that is to be used. Fill the tube with the lubricant, and insert the knurled screw. The soaked felt will keep air from passing into the tube through the lubricant holes, and the flow of lubricant can be regulated or stopped altogether by loosening and tightening the knurled screw at the end of the tube.

The tube is mounted on the machine it is to be used on so that the yarn will pull over the felt cover. As the yarn runs against the felt, it takes up some of the lubricant. The amount picked up is regulated by controlling the flow of lubricant from the tube to the felt.

[For applications where lubricant is used fairly rapidly, it will be necessary to refill the tube often. In such a case, it would be a smart trick to provide a reservoir of lubricant to be fed into the tube. This could be done by using an upside-down bottle-type container fitted with a plunger cap. It probably would be necessary to use a hollow stud in the tube where the knurled screw is now.] (K-1133) *Edwin Swindells, Cheshire, England.*

Spinning-Mule Ease-Up Controlled by Springs

Here is a kink that will make the ease-up on a Davis & Furber spinning mule last indefinitely.

If the draft slide of the mule is working properly, you don't need this idea. But the chances are about nine out of ten that your slide is not working properly.

Usually, nobody notices that the slide is out of whack until the ease-up gears are worn-out. Then it takes about half an hour or an hour to replace the gears, and it costs you $10 to $12.

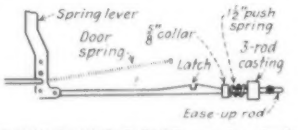
The plunger on the draft slide is supposed to delay the top ease-up gear from dropping in until the mule is completely stopped. If the plunger works too freely, the ease-up gear drops in at the same time that the draft gear comes out. Result: the ease-up gear skips a tooth or two. In time, the teeth will be rounded off and bad work will be caused by the mule not easing up.

With this kink, the gears drop in as easily as if they were placed in by hand. And there is no load on them when they do drop in.

As shown in the sketch, the kink consists of two springs to help control the working of the front part of the ease-up rod. The purpose of the door spring is to pull the ease-up rod back when the machine strikes in. The push spring on the other side of the ease-up latch absorbs the small amount of shock that may be caused by the action of the door spring.

One end of the door spring is fastened in a ¼-in. hole drilled in the swing ease-up lever. The other end can be fastened to a convenient place so that it is fixed and independent of the ease-up motion.

The push spring is placed over the rod as shown in the sketch. When the machine is out, the push spring is relaxed. When the ease-up rod is pulled back by the door spring, the ⅜-in. collar (fastened to the rod with an Allen setscrew) moves the push spring toward the three-rod casting that guides the ease-up rod. Just before the rod is pulled all the way back, the push spring strikes the three-rod casting. The spring is compressed, absorbing any shock that may develop at the latch.



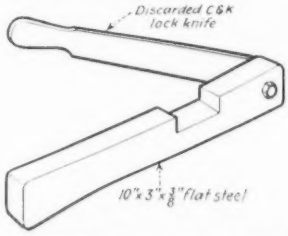
***SPINNING-MULE EASE-UP** can be closely controlled by springs installed as shown here. The door spring at the left pulls the ease-up rod back. The 1½-in. push spring at the right stops it.*

When the take-up belt is changed, the ⅜-in. collar may need to be moved up or back to adjust the limit of the ease-up. In many cases when the draft slide would have to be set or the ease-up gears changed, adjustment of the ⅜-in. collar will do the job instead.

Another advantage to this kink is better control of twist. Some mills spin yarn that does not take twist readily. The springs shown can be set so that less ease-up is obtained. The yarn end will then be kept tight and kinks in the yarn will be avoided.

The cost of the material used would be about 25¢. (K-1123) *Joseph Nadeau, Keene, N. H.*

Spindle-Leather Cutter Is Easy to Make and Use



***LOOMFIXERS** can save time and effort by the use of a spindle-leather cutter similar to the one shown here. An old steel shuttle binder may be used for the base and a discarded lock knife used for the blade. The base is cut out, and the top edge is filed to a slight angle. The cutting bar is ground to a bevel on the outside. A 5/16-in. hole is bored through the cutter and base at one end, and a bolt is used as a rivet.*

In operation, the base of the cutter is fastened in a vise; the leather to be cut is placed on the base, and the handle is pressed down. The leather is cut in strips. Leather up to ½-in. thick can be cut with little effort. (K-1120)

True a Commutator With a File and Rest

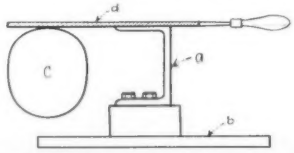
A motor commutator has to be smooth and true. If not, machine efficiency will drop and the commutator and brushes will wear rapidly. Wear of these parts causes fine dust that may conduct current and, in extreme cases, cause a short circuit.

Regular use of a sanding block helps. The trouble is that the block cleans more than it cuts and is of little use on a badly worn commutator. If an abrasive stone is used, it is nearly always held by hand and as much cutting is done on the low places as on the high.

There are three ways to true up a worn commutator:

1. Use a cutting tool on it, either with the commutator in a lathe or in its bearings.
2. Grind it true in a lathe or its bearings.
3. File it true in its own bearings.

After one of these methods is used,



***TRUING A COMMUTATOR** is easy if a file rest similar to a is used. The commutator should be turning in its own bearings at operating speed.*

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the final truing should be done with the commutator in its own bearings and running at its operating speed.

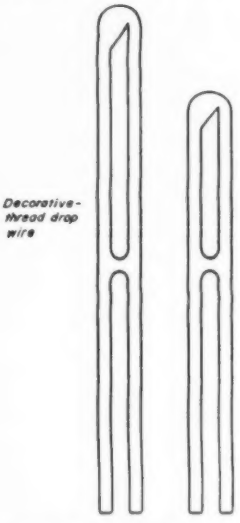
An arrangement that helps in truing the commutator with a file is shown in the accompanying sketch.

Angle bracket *a* is bolted to machine bed plate *b*. The top surface of *a* must be slightly lower than the top of commutator *c*. It must also be perfectly horizontal.

File *d* is placed on the top of bracket *a* and extended beyond *c*. The file should be held with one hand on the handle and the other securely holding the file on bracket *a*.

It is a good idea to dress the file with chalk to prevent the file teeth from tearing the copper cover of the commutator. Frequent cleaning of the file is necessary. (*K-1125*) W. E. Warner, Essex, England.

Special Drop Wires



***WOOLEN OR WORSTED FABRICS** with decorative stripes of silk, rayon, or other fine yarn sometimes cause weaving trouble by the decorative yarn loosening up and causing the drop wires to stop the loom.*

To overcome this trouble, special drop wires may be secured from the stop-motion manufacturer and used only on the decorative warp ends. These wires, as the sketch shows, are much longer than regular wires. If the decorative yarn does slacken up, the wire must drop a considerable distance before it makes contact with the drop-wire rods that cause the loom to stop.

Under most conditions, these wires will take care of any slackness that may develop in fine decorative warp yarn. (K-1121)

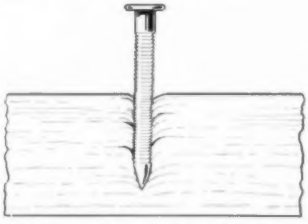
Keep Windows Closed

If you've got a mill in a cold climate, *it's a good idea to tip off your watchman* to check for open windows during shut-down periods.

In a New England woolen mill, the fittings on a sprinkler drain near an open window froze and broke. The water ran about 45 min. before the watchman's next round. Of course, he found it, cut off the water to the system, and called the maintenance men.

But 50 warp beams got wet, and the hardwood floor warped. (*K-4110*) *Associated Factory Mutual Fire Insurance Cos.*

Acid-Resistant Nails Used in Platform Truck



***SULPHURIC ACID** in wet-finishing rooms is bad medicine for ordinary nails or screws used in building platform trucks. The acid attacks the metal, and moisture tends to make the nails "back out."*

Monel-metal nails, with shafts wedged somewhat as the threads of a screw, are now available. This metal resists the action of sulphuric acid, and the wedges keep the nails from backing out.

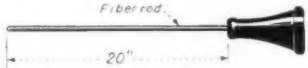
Results: no corroded nails and no loose boards. (K-1137) The International Nickel Co., Inc.

Listen to Bearings With Telephone Receiver

Now you can hear what goes on inside a ball bearing. All you need to do it with is a homemade stethoscope somewhat like the stethoscope the doctor uses to listen to your heart.

To make the gadget, all you need is a piece of ¾-in. fiber rod 20 in. long and an old telephone receiver shell.

Thread one end of the ¾-in. rod, and tap a hole in the back end of the receiver shell. Screw the rod into the shell—and start listening to ball bearings.



***BALL-BEARING OPERATION** can be heard with this "receiving" device. Put the end of the rod against the bearing housing, and listen through the receiver. Bearing trouble can be spotted in the same way that a doctor spots an unsteady heartbeat.*

If you can't put your hands on an old receiver shell, a fiber tube 1½ in. in diameter and about 6 or 8 in. long will work all right. Stop up one end of this tube with a hardwood block, and drill and tap a hole for the ¾-in. rod in the wooden block.

Here's how you listen with the thing.

You put the end of the fiber rod against the bearing housing and place your ear to the "receiver." It takes a little practice to learn how a normally operating bearing sounds, but you'll soon learn to relax when you hear a steady hum.

Some of the troubles that can be spotted by a "bearing doctor" are:

Irregular clicking usually means that the bearing is dirty.

Regular clicking probably means that flat spots are developing on the balls. As wear increases, the clicking gets louder.

A crack in the ball race will also cause clicking. (*K-1138*)

Load Flats and Doffer To Prevent Wire Damage

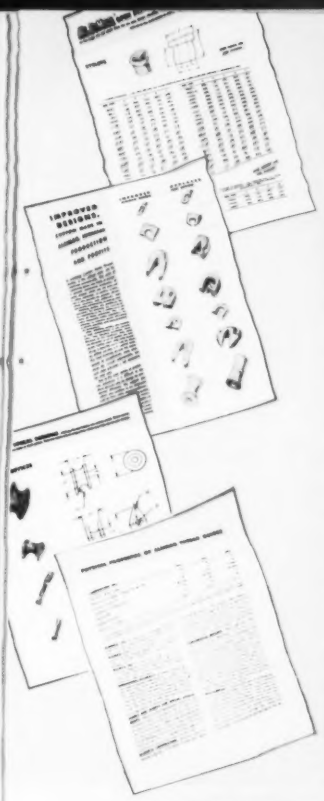
In many blanket mills, cards and spinning frames are in the same room. At times, a number of cards may be stopped for some reason, such as a shortage of stock. If the spinning frames are kept running, humidity must be maintained in the room; and there is danger that it may damage card-clothing wire.

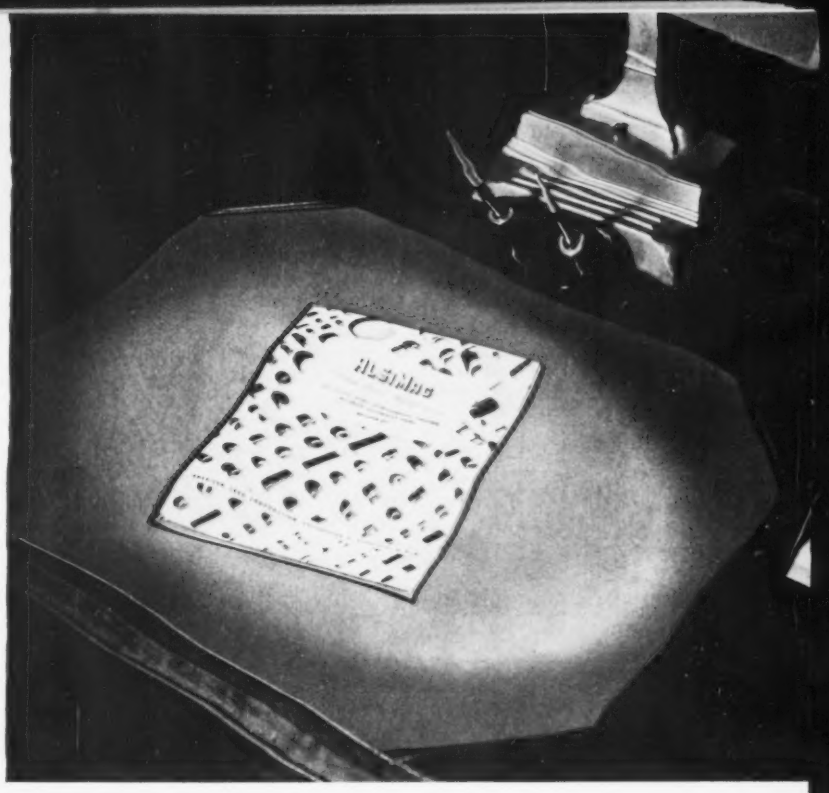
If the flats and doffer are not protected from humidity, the stripping comb may fail to remove the imbedded fibers when the card is started up again; and the results will be clogged flats and bad carding. If the stop-off is long, the wire may rust.

Either condition causes further stoppage and extra work. The card grinder must clean out the flats with a stripping roll and run the burnishing roll to polish the wire again. This treatment is harsh to the clothing, and in time it will cause the wires to break out in clusters.

One way to prevent such damage is to load the flats and doffer with stock before the card is stopped. The fibers with which they are loaded will protect the wires from humidity by absorbing the moisture.

To load the flats and doffer, stop the card in the following manner: Push off the band that drives the flat stripping comb, and let the card run until the flats on top are against the cylinder and loaded flats are up. Put the card drive belt on loose pulley. When the





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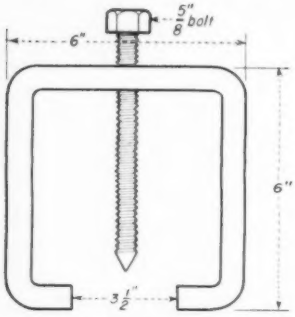
cylinder slows to about 30 rpm., knock off the doffer-comb band. By the time the card stops, the doffer will also be loaded with stock. (K-1116) *William Shaw, Providence, R. I.*

Head-Motion Gear Puller



***A HEAD-MOTION GEAR PULLER** can be made from a discarded picking shaft as shown here. Have a blacksmith bend the shaft so that it is about 6 in. square, with a 3 1/2-in. opening. Drill and tap a hole for a 5/8-in. screw. The screw must be threaded up to the bolt head and should be ground to a point.*

To use the puller, slip the open side of the square bracket over the gear and run the screw up until the point touches the gear stud. Use a wrench to tighten the screw and force the gear off the stud. (K-1122)

Narrow-Warp Sizing Done on the Loom

Experimental sizing of narrow-fabric warps can be done on the loom. It is not necessary to use a large batch of size; and often, it is not even necessary to provide artificial drying equipment.

Usually, sizing tape warps is done only in cases where low-twist or no-twist yarn is used for a pattern in the tape, and weaving breakage becomes excessive. Only enough size to hold the low-twist filaments together and keep them from sticking to the twisted yarn in the warp is needed. It is therefore often practicable to size production runs on the loom.

The equipment needed is a small trough to serve as a size vat and an immersion roll. The vat is mounted on the back of the loom so that the yarn will have time to dry before it reaches the harnesses. Splitting will be done by the warp shed.

If faster drying action is desired, place a 200-watt light bulb over the yarn just in front of the size vat. Raise or lower the bulb to regulate drying. It must be raised high enough to prevent yellowing of the yarn by heat.

The yarn is allowed to run over the immersion roll. Two adjustments can be used to control the amount of size put on the yarn. First, the roll can be set lower in the size bath to increase the size pick-up. Second, the speed of the immersion roll can be stepped up to increase pick-up.

If enough size is deposited without a positive drive for the roll, there's no need to install one. The yarn being drawn over the roll will cause it to turn slowly. If greater roll speed is needed, it may be necessary to anchor the ends of the rolls in the vat, provide a shaft on one end of the roll, and drive the roll from a power shaft. Usually, an endless tape will serve as a driving belt. (K-1115) *H. E. Wenrich, Berwick, Pa.*

Wet Tension Disks Solve Selvage Problem

Felt tension devices, either wet or dry, are one of the most troublesome things about a full-fashioned hosiery machine. We had serious trouble with them while we were knitting hosiery with cotton-and-rayon yarn twisted with about 8 tpi. Incorrect tension often caused us to lose the outside selvage stitch when we were using the regular emulsion trough and felt tension devices.

We substituted wet tension disks, shown in the sketch, and obtained excellent results.

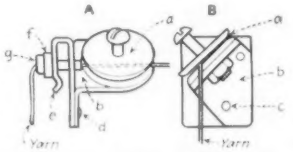
The arrangement we used was as follows:

Tension disks a were mounted on shelf *b*, made of 1x1/4-in. galvanized iron. (Stainless steel would be better.) Shelf *b* was held in place by round-head 10-32 screw *c* and rivet *d*. Loop *e*, also made of galvanized iron, fitted over the edge of the emulsion trough. Copper burr *f* was soldered to the back of loop *e* to hold porcelain yarn guide *g*.

The emulsion in the trough was kept at a constant level by an upside-down bottle that fed emulsion into the trough. We could raise or lower the level by raising or lowering the bottle.

We lowered the emulsion level and set the disks so that the bottom disk just touched the fluid. Then we raised the bottle to bring the emulsion level up to the top disks.

Moistening was done by the slow rotation of the upper disk. It is controlled for the whole knitting machine by the height of the upside-down bottle. To get proper results, it is necessary to set the disks so that the upper disk rotates at the proper speed. (Kv1118) *Walter A. Simond, Franklin, N. H.*



***WET TENSION DISKS** can be arranged on a full-fashioned knitting machine as shown here. The emulsion level is regulated by an upside-down supply bottle so that the upper disk just touches the fluid. The upper disk must rotate slowly.*

Removing Vibrator Hooks

Taking out a lower hook in a dobby-loom vibrator can be a tedious job. The following method will save time and possible damage to parts:

Stop the loom on bottom center, and leave the brake on. Say, for example, that No. 10 hook must be taken out. Pull out No. 10 jack until you can get behind the vibrator at the bottom, and block the vibrator with a 6- or 8-in. length of picker stick. This places the vibrator in a position where it is easy to get at from either side or from the front.

Remove the studs that hold the top comb, and tie back two or three of the hooks to a jack. Lift out two or three needle wires so that you can put a long screwdriver through.

Open the vibrator until you can pull out the worn hook and put in a new one. From the side of the vibrator, press the hook together with pliers that have off jaws.

Replace the needles, hooks, and comb; and the loom is ready to be started. (K-1130) *John Falcone, Bangor, Pa.*

Portable Test Lamp Speeds 'Trouble-Shooting'

An inexpensive instrument for testing electrical circuits may be constructed as shown in the accompanying sketch. A 6- to 8-ft. extension cord, with a socket and bulb connected, is all that's needed. The bulb will light up when the plug cap is connected and the two wires (extending from the wooden handles) touch. The contact of the wire ends completes the electrical circuit.

All sorts of electrical equipment may be tested. Fuses are tested by touching the two contacts. (If the light doesn't go on, the fuse is burnt out.) Warp stop-motion rods can be tested for short circuits at the loom. (Plug in the cap to the light circuit, disconnect the electrodes on the stop-motion rods,

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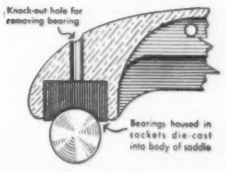
THE BEARING THAT OILS ITSELF



Forty-eight percent of the weight of the Permalube bearing is non-drying oil stored up in thousands of tiny capillaries which feed lubricant to the rolls as needed. Friction and wear are reduced almost to the vanishing point. Repeated tests, equal to years of hard service, show bearing wear of only .002"—less than the thickness of paper!

TRY PERMALUBE PRODUCTS AT OUR RISK • Try a frame of these long-life, self-oiling saddles and nebs for three months. If you don't find that they are the best you've ever used, return them for full refund of their purchase price. When ordering, send worn samples or give specifications of your frame to one of our representatives listed below.

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WHITEHEAD ENGINEERING CO.
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Makers of Permalite Aluminum Separator Shields

EXCLUSIVE DISTRIBUTORS
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Box 1351, Greenville, S. C.

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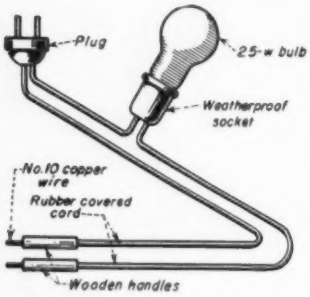


***ELECTRICAL CIRCUITS**, such as warp stop motions, can be quickly tested with an extension cord and light bulb arranged as shown here. Plug in the cap and touch the exposed ends of the wire together to complete the circuit.*

and test each one by making a contact with the rod and the insulated strip. A short circuit will cause the bulb to light, showing which rod is defective.)

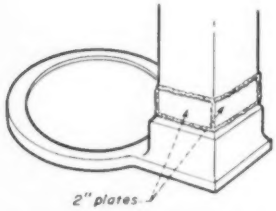
A test lamp of this type is also useful for testing home appliances to see whether the cord is broken or the trouble is in the appliance itself. *(K-1119)*

Card Coiler Heads Raised With Welded Pieces

Some time ago, we had ten Whitin cards that had coiler stands that were 2 in. shorter than the stands on our other cards. These ten cards had to be doffed about 30 min. before the others because they put less drawing in the cans. We corrected this condition by lengthening the stands and housings.

The four sides of the housing, including the door, were cut free of the base near the bottom of the housing. Cast-iron pieces 2 in. wide were welded to the housing and the base to raise the coiler 2 in. Then a 2 in. extension was welded to the top of the coiler shaft.

It was then necessary to move all gears, except the gears at the turntable, up 2 in. It was also necessary to cover the old holes in the housing and to cut new holes for bolts and for the calendar-roll shaft. *(K-1129)* W. L. Hancock, St. Pauls, N. C.



***COILERS** on ten cards were raised 2 in. so that these cards would doff at the same time as cards with taller coiler stands. Two-inch pieces were welded in the housing to raise the coiler.*

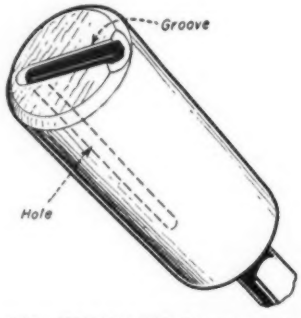
Snick-Plate Wrench Holds Adjusting Wrench

An Allen setscrew wrench is used to adjust the snick-plate wrench required by a Barber-Colman spooler. An arrangement for keeping these two wrenches together is shown in the sketch.

A hole slightly larger than the Allen wrench is drilled lengthwise in the handle of the snick-plate wrench near one side. This hole should be about the same length as the allen wrench. Beginning at this hole, a groove is cut across the end of the handle.

When the Allen wrench is not in use, stick the long end of it into the hole in the handle of the snick-plate wrench. The short end of the Allen wrench will lie in the groove across the end of the handle.

If you have trouble removing the Allen wrench, bevel out a fingernail slot at the end of the groove so that the Allen wrench can be lifted out. *(K-1128)* W. C. Gibson, Jr., Atlanta, Ga.



***ALLEN SETSCREW WRENCH** used to adjust a spooler snick-plate wrench can be stored in the handle of the larger wrench. Drill a hole for the long end of the Allen wrench and cut a slot across the handle for the short end.*

Weld Cast Iron Cool

Welding cast iron is a tricky job, particularly where fittings that must withstand pressure are involved. The difficulty, of course, is to get a good bond without cracking the cast iron.

The best procedure is to make certain that the parts to be welded are clean (absolutely clean!) and use as little heat as possible. Preheat the parts of a cherry red if that is practicable; if not, use short welds and keep the parts as cool as you can.

Cotton Conveyed by Air On Blending-Feeder Apron

We use compressed air at the delivery apron from our blending feeders to convey the cotton along the apron in order to obtain additional cleaning of the cotton.

In our mill, the cotton-opening line starts with five blending feeders. The cotton from the feeders drops onto what used to be a conventional lattice conveyor apron. The apron collected cotton from the five feeders and delivered it to the next machine in the opening line.

To improve upon the lattice conveyor, we removed the lattices and installed fine-mesh wire. The cotton now drops onto the wire apron. In the metal sides of the conveyor trough, we cut holes at regular intervals above the path of the cotton. Short lengths of pipe extend from these holes to an air pipe laid along the floor under the apron. The outlet ends of the pipes are bent so that air flowing from the pipes will blow down on the cotton and move it forward and across the apron.

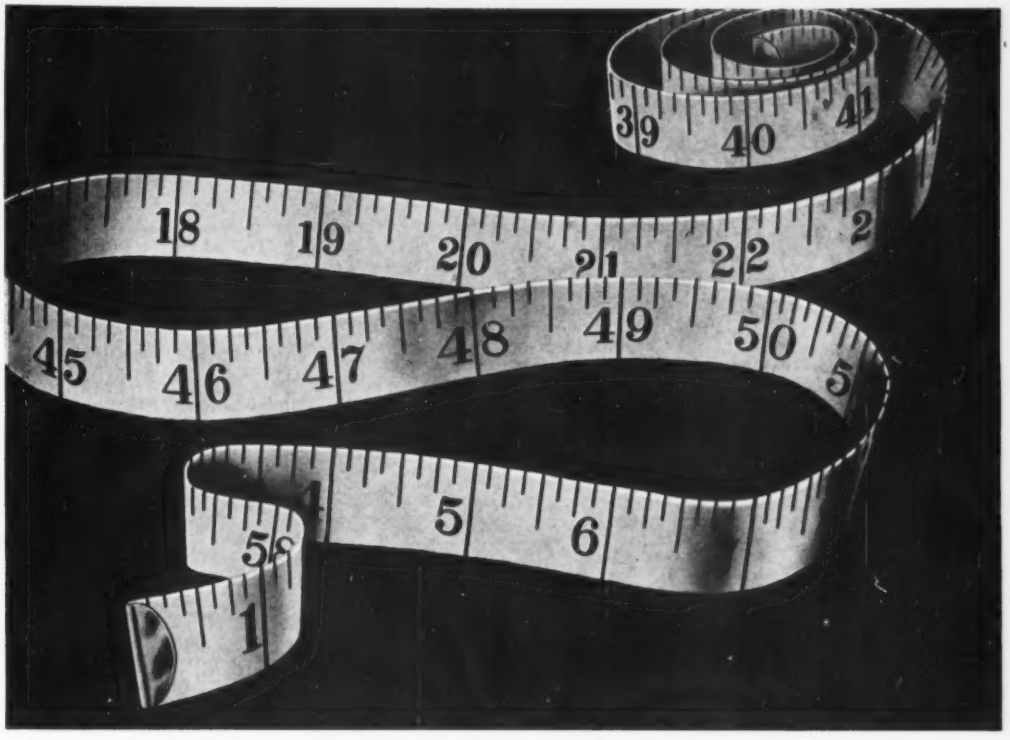
The outlets in the two sides are staggered so that cotton is blown forward and across by each outlet in each side. Motes, trash, etc. that separate from the cotton fall onto the wire apron. At the end of the conveyor, where the cotton is blown into the machine, the trash accumulated on the wire can be collected in a box placed under the point where the conveyor turns to make its return trip. *(K-892)* J. B. Boyter, Fitzgerald, Ga.

Old Scrubbing Machine Makes Good Floor Polisher

Our mill recently discontinued the practice of scrubbing floors and began resurfacing, sanding, and polishing them. It was found that an efficient floor polisher could be made from an old scrubbing machine.

In converting the scrubbing machine to a polisher, the water tank, squeeze rolls, and some of the framework were removed. A higher-speed motor was put on, and a polishing brush was substituted for the old scrubbing brush.

For some time now, this polisher has been doing a satisfactory job on our floors. *(K-930)*



How would you measure an ENZYME?

Not with a tape measure . . . or a foot rule . . . or a yard stick.

Enzymes, as blended to make Diastafor brand de-sizing agent—Type L, are measured by their *special values* in your finishing and dyeing operations.

Measured in terms of workability under widely varying conditions, Diastafor Type L can be used in an unusually wide range of temperatures and pH, which brings great flexibility and ease to your de-sizing operations.

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Measured in economy, you get more enzymes per penny with Diastafor.

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Round Table

FOR EXCHANGE OF IDEAS—*The Round Table is open to letters from any and all readers discussing subjects relating to mill management, production, engineering, technology, etc. Names of contributors will be held confidential if so requested, but contributions must be signed with real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table,* TEXTILE WORLD, *330 West 42nd St., New York 18, N. Y.*

Jim Gives Brass-Knuckled Advice to Dyers

This is a gripe written with malice aforethought. TW happens to be the whipping boy because I saw Earle Mauldin at the recent meeting of the AATCC at Greenville. He was on the prowl for something to print, but let me give you an angle I'll bet no one of the meeting thought of. It's a mercenary angle. But I make no apologies since, when Jim's family prays for daily bread, the prayers are beamed at Diety in a loud enough voice for Jim to hear and to be reminded that he is the delivery boy.

When the chemists and colorists got together, did you notice how much time was used to talk about how to overcome re-runs, rejects, and seconds? Why in the name of jumping jupiter don't those guys go over the whole layout to find out the cause of the trouble? They seem to concentrate on a little of this and a daub of that. Never on preventing the trouble.

When I was peddling Calgon I had certain reasons why the stuff should be used in process. Those reasons dealt with corrosion of the water after it got to the process. Then we found later that Calgon was quite the thing to use at the filter plant to prevent a damaging pickup of iron in the pipes delivering water to the process. Because the dyer (let's forget the term chemist and colorist) didn't give a damn about the filter plant as long as it turned out a water with a specified pH, corrosion of the water lines was accepted as a necessary evil.

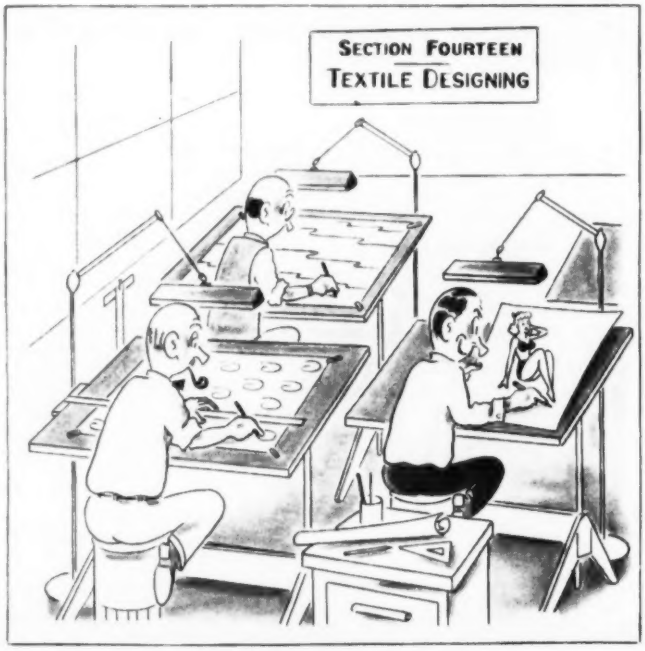
And so the mill would install stainless-steel equipment and zeolite softeners. But corrosion would continue in everything right up to the dye house, and then the poor dyer was up against it. It just never occurred to the dyer to stop the corrosion ahead of the dye house, and so all the stainless-steel equipment proved insufficient to prevent the trouble. And the cure was not by dumping a lot of useless chemical in the dye machine.

Here's a good example of what I'm talking about. A large mill has a zeolite softener and the latest word in stainless-steel dye-house equipment. They get their water from a nearby city. The filter plant was three or four miles from the dye house, and there was enough corrosion in the water lines to play hob with the dye-house emporium. But for years they told us they had no need for Calgon because of the softeners and the stainless-steel machinery. They finally decided that there might be something in what we had been telling them, and the company gave the city enough Calgon to run a trial. Results were good, and they got rid of dissolved iron in the dye house. But—only after several years of fiddling around with various junk in the dye machines, junk that was directed against a result rather than a cause. (R-471, Jim, Charlotte, N. C.)

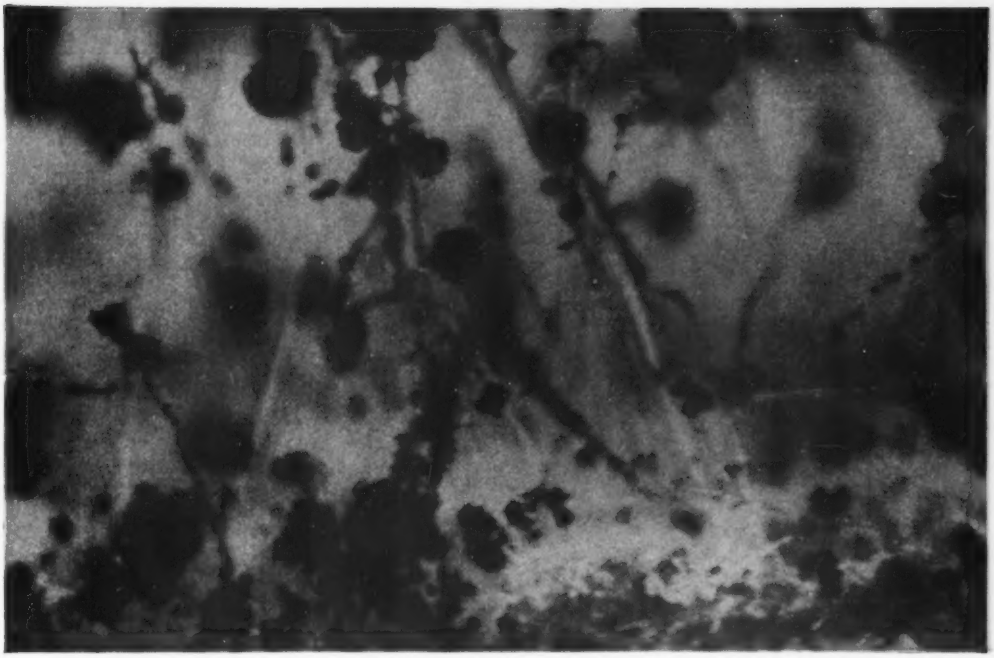
How to Slip-Draft For Long Rayon Fiber

I've just had some experience on blends spun with worsted apron long-draft equipment. The system used had 2¾-in. distances between the nips of the rolls for 2-in. stock in order to prevent cockling of the yarn. After some experience with this equipment, I obtained an idea for an experiment upon some staple cradle frames in the same mill. The nip-to-nip settings of these rolls was 2 in. It was necessary for us to run a small amount of

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*



"In the spring a young man's fancy . . ."



An example of Aspergillus Niger—a common discoloring mold magnified seventy times.

stop feeding your profits to fungi!

How much profit are you losing to mold and bacterial action? These microorganisms cause costly losses in many stages of the textile industry. Sizing and softening solutions are particularly subject to decomposition, resulting in loss of tensile strength, discoloration and uneven dyeing.

Now you can effectively control such losses with Dowicides, Dow's industrial germicides and fungicides. Leading mills depend on Dowicides to give effective microbial control and reduce operational and storage losses. For instance, sizing materials may be held in solution form for considerable periods without decomposing.

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Round Table

(Continued)

a rayon blend that was composed of 3-in. staple. I decided to try my experiment.

I adjusted the stirrup forward by bringing the screw toward the front roll on the Dixon saddle. This action resulted in adding pressure to the front roll and removing pressure from the middle and back rolls. I created a semi-slip draft that enabled me to run the 3-in. staple on a 2-in. nip-to-nip setting. No cockling appeared. There was a minimum of ends-down, less warp breaks, and better all-round performance from the particular blend of stock.

While I realize these frames were not designed for this length of stock, I suspect that we could do more with our machines if we would try. Of course, this would not be possible without an apron control of fiber spread. (*R-460*, Charlotte, N. C.)

Correction on Australian Article

TW February had an article headed "Australia" by Herbert Leopold in which he states "A major event was the establishment of a Melbourne subsidiary by Riverside Worsted Co. of Woonsocket." This statement is not quite true.

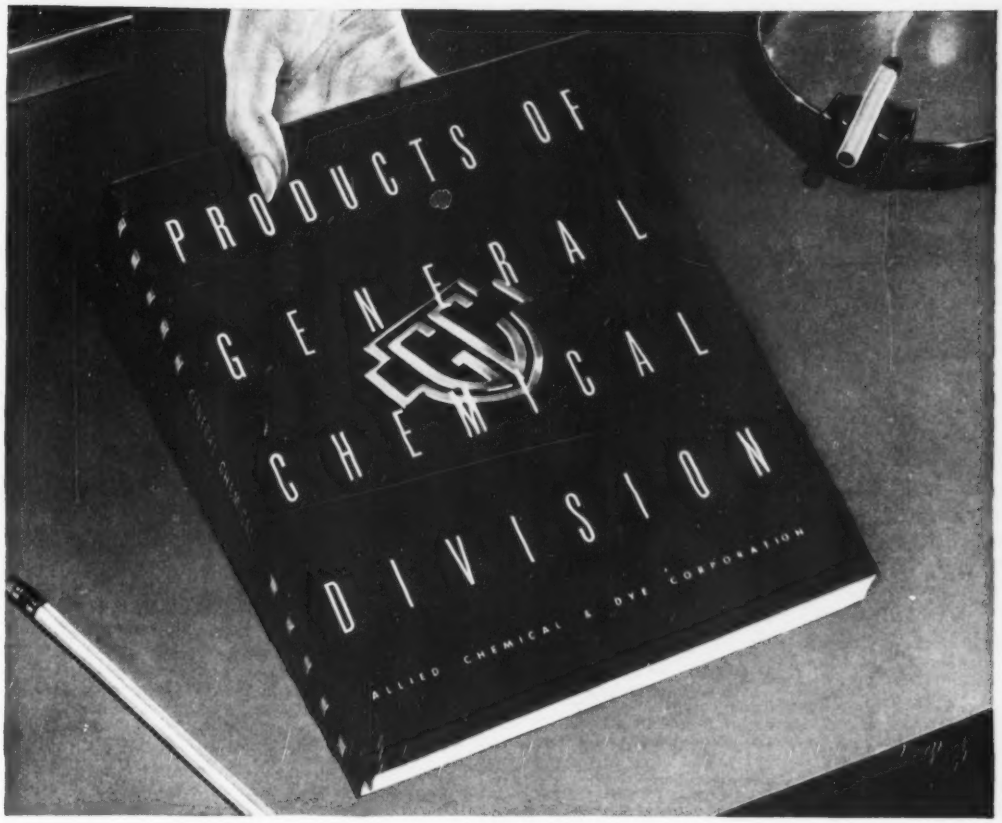
Riverside Worsted Co., Inc., joined with Australian capital to establish a French Spinning mill in Australia and transferred the machinery required by the plant. Payment for technical services rendered and for machinery was made by the allocation of shares in the new company.

Although Riverside holds a big block of shares and has a very definite interest in the Australian company through its technical service and representation on the board, nevertheless Riverhart Limited is an Australian company, Australian controlled, and is not a subsidiary of Riverside Worsted Co., Inc. (R-472, H. T. Oakley, Secretary Riverhart Limited, Melbourne, Australia)

Does the Worker Like Small or Big Mills?

To the average employee, the mill represents "big business." A lot of things he likes are available in a big organization. Even if you cannot agree with a recent statement that "most people prefer to work for a big outfit," there is some appeal to the worker in the big organization.

But some workers would select a small company if they had the choice. They like the friendliness of the small



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OFFICES IN PRINCIPAL CITIES

You bet you can do something about the weather!

You can move your mill to the Texas Coast, where the climate, from January through December, is a mean 69.2° F.* *That means a lot to textile companies that have had to foot the bills for heavy construction against the bleak winters and dank cold of other regions.* And look at these other advantages it will be your good fortune to enjoy: Your vital resources—cotton, wool and mohair—available at your mill's back door; transportation by rail and water; a reasonable tax structure (no State income taxes); an intelligent, cooperative population. All this with natural gas—*the textile* industry's most economical and efficient fuel.

*At Houston, chief city of the Texas Coast.

Write, wire or telephone for a detailed survey, or special information. Or visit us; it will be a real pleasure to show you around.

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Subsidiary of Houston Oil Company of Texas GEO. A. HILL, JR., President

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Good fortune awaits textiles in Texas:

Raw fibres—(33% of U. S. cotton, 23% of U. S. wool, 94% of U. S. mohair) • unsurpassed rail and water transportation • a fine, mild climate • excellent industrial relations • an abundant supply of economical, efficient natural gas for fuel.

Round Table

(Continued)

mill with its restricted personnel. They like to be able to discuss their problems with the boss directly. They also like to feel important, to be called by their first name, and to see the direct results of their labor. Many of these men work for big textile organizations because of convenience or lack of another opportunity. Without realizing it, they may miss the advantages that would appeal to them strongly in a little company; and out of this vague dissatisfaction they may develop indifference. They do fairly good work, but not their best. They may withhold the intense loyalty that makes an A-1 employee.

Fortunately, the big mill has the unique advantage of offering a double-edged attraction to employees, if it develops the human organization as well as the physical or plant facilities.

To press this advantage, the mill should continue to work as an industry team and to strengthen departmental setups, in order to bring to the employees the feeling that they are enjoying the advantages heretofore considered within the realm of the small business.

Workers want friendliness. It would not be too difficult to make this trait a requirement in promotions to foremen positions. The mill can sell present foremen on the idea that this trait weighs heavily in ability ratings.

Workers like to see definite results from their labor. The foreman can emphasize the department's finished products and demonstrate the importance of the worker's relation to mill output.

Workers hope for individual recognition. The mill can promote inter-departmental sports, newspaper personnel news, and bulletin-board reports of minor achievements.

Workers want to be people not cogs in a wheel. Maybe, some of the mill's departments have grown too large and cumbersome to the extent that personal accomplishment means nothing.

Workers feel they have a right to talk things over with the boss. The mill should make it clear to foremen that it stands behind the workers in this belief.

While bigness brings its own problems, it has the double-edged advantage it needs. Management is fortunate if it understands how to use this advantage to bring the characteristics of small business to the large mill corporation. (R-474, George M. Dodson, Box 894, Harrisburg, Pa.)

$200 prize KINK CONTEST announced this issue. See page 157.

(A Quick Quiz on modern pH advancements)

Do you know these important facts about BECKMAN pH CONTROL?

Do you know...

That Beckman pioneered modern glass electrode pH equipment?

Until Beckman pH instruments were developed, glass electrode pH equipment was a cumbersome, complicated laboratory curiosity. It was Beckman that pioneered today's simple, compact, highly accurate and completely dependable glass electrode pH equipment!

That Beckman pioneered virtually every major development in modern glass electrode pH equipment?

Such far-reaching advancements as the High pH Glass Electrode . . . the High Temperature Glass Electrode . . . the Unusually Rugged "X-9" Glass Electrode . . . as well as a wide range of other vitally important advancements in glass electrode pH instrumentation, were *all* pioneered by Beckman. *Many of these advancements are still available exclusively in Beckman equipment!*

That Beckman offers the industry's most complete line of glass electrode pH instruments?

Included in the complete Beckman line are instruments specially designed to combine the high precision and wide versatility necessary for advanced research, medical and laboratory applications . . . others that combine maximum simplicity and high accuracy with complete portability for plant and field applications . . . still others that combine maximum simplicity and high accuracy with the plug-in convenience of full AC operation . . . plus *completely automatic* pH equipment for continuous pH indication, recording and control on large-scale processing applications.

That Beckman also provides the industry's most complete line of modern glass electrodes?

***Although glass electrode pH instruments are the most efficient pH equipment obtainable, no glass electrode* pH instrument is better than the versatility, accuracy and dependability of the electrode assemblies available for use with it.**

Beckman provides the industry's most complete line of glass electrodes for use with Beckman pH instruments—a type of electrode assembly to meet every industrial, research, laboratory and field requirement!

That there are so many money-saving applications for Beckman pH control that you may be losing important profits unless you make a complete investigation of your operations?

There is pH wherever there's water, water solutions, moist pastes, sludges, slurries or other moisture-containing substances. And wherever there is pH, chances are the operation can be done better . . . with greater uniformity and less waste at lower overall cost . . . by Beckman-controlling the pH of the various processing operations.

WHETHER you manufacture food products or treat sewage . . . do metal plating or refine crude oil . . . make textiles or process ore — in fact, no matter WHAT *your field of operation . . . if you have not yet determined whether Beckman pH Control can be used to advantage in your operations — possibly is already* BEING *used to cut costs by your competitors — let us study your processes and make helpful recommendations. No obligation, of course.* BECKMAN INSTRUMENTS, NATIONAL TECHNICAL LABORATORIES, SOUTH PASADENA, 12, CALIFORNIA.

For an informative, non-technical outline of modern pH control — what it is and how it's used — send for this free booklet "What Every Executive Should Know About pH."

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pH Meters and Electrodes — Spectrophotometers — Radiation Meters — Special Analytical Instruments

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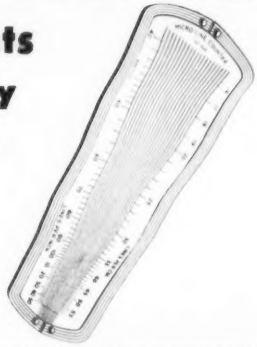
TEXTILE WET PROCESSING EQUIPMENT EXPOSITION

no more tortured eyes
no more tedious counting
no more errors in count

new

MICRO-LINE COUNTER

gives fabric counts
- accurately
- instantly
- directly



NOW YOU GET accurate instantaneous counts of textile fabrics with this *new, precisely engineered* Micro-Line Counter.

FREE, four-page illustrated folder describes the ingenious way the Micro-Line Counter gives you *direct* readings based on lens-sharpened, intense moire patterns that point to the exact count. Far superior to the slow, old-fashioned method, the Micro-Line Counter *does away with the tedious work of counting individual lines . . . saves time . . . eliminates the torture of eyestrain . . . prevents errors in count.*

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Without obligation, please send me free illustrated folder giving full information and prices on the Micro-Line Counter.

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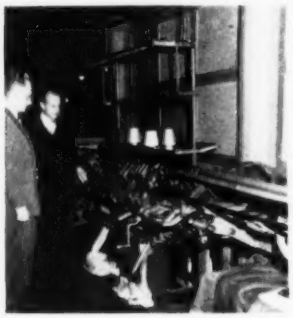
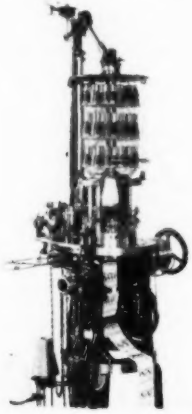
Knitting Show

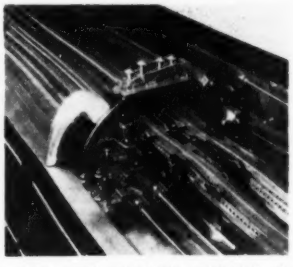
(Continued from page 123)



KNITTED-IN PATTERNS without floats or laying were shown by J. G. Sandri, Dubied Machinery Co., (right) to P. M. Thomas, associate editor of TEXTILE WORLD. This machine is fully automatic. (B-50)



MULTIPLE DESIGNS are possible on the ribber featured by Fidelity Machine Co. The machine employs a 25-set patterning mechanism with 120 vertical and 5 horizontal colors. (B-51)



A NEW LINK-AND-LINK MACHINE that emp'oys a doub'e-butt, double-jack system was introduced by Queens Machine Co. Multi-colored float work and conventional cable- and rope-stitch designs can be knitted at fast rates of production. Features of the machine include simple carriage-cam arrangement and lightweight cam carriages running in tandem. (B-52)

READER-SERVICE DEPARTMENT

This four-page insert is at your disposal to help you derive increased benefit from your readership of TEXTILE WORLD. We hope you will study it, get well acquainted with it, and use it freely.—The Editors.

TO COMMENT on anything about TEXTILE WORLD, use the card below. We hope you will use it to give us your opinion, favorable or unfavorable, on any editorial material in order to help us serve you better. Use it to discuss textile-manufacturing problems, perhaps enlarging on something already printed, for publication in the Round Table department. Use it to tell us what you would like to see published to help you with your mill problems.

TO INQUIRE about any mill problem you may have, use the card below. If you have a technical question, submit it to our Questions and Answers department. Be sure to give as complete details as possible so that your question can be fully understood.

TO CONTRIBUTE kinks, textile-news notes, or other brief material, use the card below. If you have some useful idea for cutting costs, improving quality, or increasing production, enter it in our KINK CONTEST. We also warmly welcome queries as to the probability of our accepting for publication any specific articles you may contemplate writing for us.

☆

SEE FOLLOWING PAGES FOR ADDITIONAL SERVICES OFFERED

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Dear Editor:

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(over)

MANUFACTURERS' BULLETINS

FREE FOR THE ASKING

Reviewed here is the outstanding trade literature of the month. Items are listed one month only—no repeats. Mill executives may request copies of literature by using cards on the next page.

1. **Automatic production control** through use of variable-speed drives is discussed in a booklet prepared by Reeves Pulley Co. The publication is of interest to machine designers, builders, and users.

2. **A magnetic tension device** for the No. 50 winder is described in a recent issue of "Twists and Winds," a publication of Universal Winding Co. A new twister traverse motion assembly is also featured.

3. **Cleanup problems** become more acute in summer. Washfountain installations are described in a folder from Bradley Washfountain Co. Both stainless-steel and enameled-iron bowls are pictured.

4. **Spinners** will be interested in a bulletin issued by The Pneumafil Corp. It describes the vacuum system of collecting lint and foreign matter from yarn as it leaves the front rolls.

5. **Double-deck twisters** for accurate, high-speed twisting of the finest of deniers are described in a folder available from U. S. Textile Machine Co. Four outstanding features are emphasized.

6. **Flow- and liquid-level measurement** and transmission is the subject of a bulletin published by The Foxboro Co. The differential-pressure cell is pictured and described.

7. **Measuring and inspecting machines** are featured in a folder issued by Cutting Room Appliances Corp. There is a discussion on foot-controlled variable speeds.

8. **Static elimination** with the oxy-neutralizer bar is described in a folder published by Herbert Products Inc. A typical "package" of equipment is pictured.

9. **Oriental business practices** and problems are reviewed in a recent issue of "Interchemical Review," publication of Interchemical Corp. There is also an excellent article on metalization of organic dyestuffs.

10. **Handling of liquid chlorine** is the subject of a 32-page booklet published by Mathieson Chemical Corp. Shipment, storage, and safety are covered.

11. **Uses of Sequestrene** in textile processing are outlined in a report available from Alrose Chemical Co. Chemical formulas and dyeing reactions are given.

12. **A speed-ratio tachometer** for measuring the speed ratio of two rotating shafts is described in a folder prepared by Weston Electrical Instrument Corp. Stretch and shrinkage applications are outlined.

13. **A rotary steam joint** and syphon engineered for textile mills is the subject of a folder issued by The Midwest-Fulton Machine Co. Special application to dryer-can drainage problems is suggested.

14. **Air venting** of industrial steam equipment is discussed in a bulletin available from Sarco Co., Inc. Diagrams illustrate the technical discussion.

15. **Bocar opening equipment** for wool or similar stock is featured in a recent catalog from Proctor & Schwartz, Inc. Other equipment is also presented.

16. **The laundry moisture register,** a portable electronic device which indicates moisture content in less than 3 seconds, is described in a bulletin issued by Moisture Register Co.

17. **A high-speed tenter frame** of modern design is featured in a folder from Marshall & Williams Corp. Performance characteristics and specifications are given.

18. **A speed selector** which permits stepless, infinite ratio changes in rapid succession is the subject of a folder published by B. F. Goodrich Co. Data tables for several models are included.

19. **Hints on drum-handling** are included in a recent issue of the "Pioneer," a publication of Niagara Alkali Co. A drum bar, lifting tongs, and oil gauge are discussed.

20. **A telescopic tilting fork** for their electric fork truck is described in a pamphlet issued by Yale & Towne Mfg. Co. Detailed specifications are given.

21. **Diameter measurement** of filament, strand, wire, or thread with an electronic micrometer is discussed in a folder from Standard Electronics Research Corp.

22. **An electronic air filter** of the dry type is the subject of a catalog prepared by American Air Filter Co. Inc. There is a section on space requirements for the filter.

23. **Truck casters wearing?** You will be interested in the information presented in a bulletin on swivel and rigid casters from Edgar E. George.

24. **Precision guiding equipment** and accessories are pictured and described in a folder made available by Mount Hope Machinery Co. Seven advantages are claimed.

25. **Doubler twisters** for doubling and twisting yarns in one operation are described by U. S. Textile Machine Co. in a new bulletin. The machines are said to combine 2 to 12 ends of yarn up to 12 turns per inch.

26. **What is in Laboratory 16?** A recent issue of the Rohm & Haas "Reporter" devotes four pages to this special textile research section.

27. **A "Tweco log"** issued by Tweco Products Co., Wichita, Kansas, tells all about their welding cable connections and other accessory equipment.

28. **An annotated bibliography** of the literature of compounds G-4 and G-11 has been published in an issue of the "Sinclair Reporter," publication of Sinclair

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TEXTILE WORLD

330 West 42nd Street

New York 18, N. Y.

McGraw-Hill Publishing Co., Inc.

Corp., 330 West 42nd St., New York 18, N. Y. Textile applications are included.

29. A guide to correct instrument selection has been prepared by Taylor Instrument Co. The field of application of each instrument is given in this revised edition.

30. The world's fastest overseaming machine, the Superlock, is illustrated and described in a bulletin published by Willcox & Gibbs Sewing Machine Co.

31. Do you have a problem in variable-speed drive? A five-way solution is presented in a folder issued by The American Pulley Co. There is a table on selection of the proper drive for your machine.

32. Magnetic drum separators, the non-electric type, to remove ferrous material from conveyors are described in a bulletin prepared by Eries Mfg. Co. Phantom photographs show internal drum construction.

33. "Scientific Study of Rayon Dyeing," a paper presented before the Canadian ATCC has been published as a Calco Technical Bulletin. The paper reviews laboratory work on the subject.

34. Vicara—the new textile fiber—is the subject of an attractive booklet prepared by Virginia-Carolina Chemical Corp. Samples of fiber and fabric are included.

35. Heat exchangers in their new mass-produced line are discussed in a bulletin published by Ross Heater & Mfg. Co., Inc. Cutaway views accompany the brief text on the all-nonferrous units.

36. "Ludox," a stabilizing agent which has many textile applications, is the subject of a report issued by E. I. du Pont de Nemours & Co., Inc. Two main uses outlined are to increase fiber friction or impart special effects.

37. An improved ring twister and winding machine are featured in a folder prepared by Universal Winding Co. Two mill installations are pictured.

38. Wool-scouring experiments conducted at Lowell Textile Institute are reviewed in a technical data report issued by Onyx Oil & Chemical Co. A new synthetic detergent was being tested.

39. Viscosity determinations with "slide-rule" speed are described in a catalog published by Brookfield Engineering Laboratories. Four series of Viscometer models are featured.

40. For removing wrinkles—from fabrics being processed in the open width—your attention is drawn to a circular on a ball-bearing, adjustable-spiral opening roll unit made by Birch Bros.

41. Roving frames can produce better roving when equipped with their compound and chain drive, according to a folder issued by Precision Gear & Machine Co., Inc.

42. "Behind the Dial" is the title of a catalog published by Roller-Smith. Features of their measuring instruments are explained.

43. A new condenser bobbin for woolen and waste condenser yarn spinners is introduced in a recent issue of "Platt's Bulletin." There is also a section on modernizing wool carding machinery.

44. Machinery for knitting, dyeing, and weaving is cataloged in a publication from Morris Speizman Co., Inc. 16 pages are devoted to a list of machinery now available.

45. pH meters are the subject of a folder from Macbeth Corp., New York 11, N. Y. The units do not use batteries, according to the folder.

46. Top-dyeing machines built in capacities of 150, 300, 450, 600, and 700 lb. using 15-lb. tops are featured in a bulletin prepared by William Allen Sons Co.

47. An electro-hydraulic tensile-strength tester is described in a catalog published by Thwing-Albert Instrument Co. A calibration table is included.

48. "Viscosity and temperature in one curve" is the claim of the Viscograph in a bulletin issued by Brabender Corp. A cutaway sketch and written material explain the working principle.

CARDS ON THIS PAGE are for the use of mill executives in writing for manufacturers' bulletins reviewed here, as well as for additional information appearing in our Textile Equipment News, New Dyes and Chemicals, and Useful Accessories departments, or in the advertising pages.

To request copies of manufacturers' bulletins reviewed in this issue, simply write in the box of any one coupon the number preceding the item. In the case of other editorial items listed above, write in the letter and number printed at the end of the item that interests you. In the case of advertisements, enter the letter A followed by the page number; if there is more than one advertisement on that page, please add the initials of the manufacturer. In every case, we'll advise the manufacturer as to what you want in order that you may receive the reply direct from him.

USE THESE CARDS to request trade literature, more details about equipment or supplies, more information about advertisements, as explained above.

1. Fill out completely one space (name, title, company, address, and item designation) for each piece of information wanted. Put only one item designation in each square.

2. Use bottom card only if making one to four requests, both cards if making five to eight.

3. Detach, add postage, and mail.

Write in box the designation of item on which more information is wanted. A-219 A.F.Co.

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My Name Wm. L. Wilson

Title Overseer

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TEXTILE WORLD

330 WEST 42nd STREET

NEW YORK 18, N. Y.

McGraw-Hill Publishing Co., Inc.

49. A simplified guide to Bakelite and Vinylite plastics has been published by Bakelite Corp. Many textile uses are shown.

50. Ever been through a paint factory? You are given that opportunity while in your office or home by sending for a catalog issued by Gilman Paint & Varnish Co.

51. Spinning and twisting spindles for the textile industry are described and illustrated in a folder made available by Ex-Cell-O Corp. Several types of spindles, precision-machine parts, and assemblies built to customer's specifications are pictured. There is also a complete coverage of the company's facilities and services available to the textile industry.

52. Neutralization of industrial wastes is the subject of a bulletin prepared by Leeds & Northrup Co. A system of combating stream pollution through the use of standard pH equipment is outlined. Two available control systems—Micromax Electric and Micromax Pneumatic—are described and pictured. The bulletin also tells how both systems proportion reagent flow to waste demand.

53. "Cargotainer", an 8-way, steel-wire pallet and collapsible container is featured in a bulletin published by Pittsburgh Steel Products Co. Many pictures show how the units are used to store and handle fragile products, how visibility through the wire construction aids inventory procedure, and how the container can be collapsed to return for reloading. Standards and details on three sizes are given.

54. Conversions of band-drive frames to tape drive can result in more uniform spindle speed, uniform twist, a better package, and more yarn, according to a folder issued by Meadows Mfg. Co. There is a separate section on each of several parts that make up the conversion assembly, such as the ball-bearing cylinder unit, tension-pulley assembly, and jack-shaft drive.

55. A buying guide for glass products and accessories has been prepared by Pittsburgh Plate Glass Co. The 56-page guide includes data on hundreds of items. Among the products listed and described are: glass tanks, architectural glass, heat-absorbing glass, wired glass, figured glass, glass blocks, safety glass, glass doors and panels, structural glass for washrooms, and an array of tools and supplies for this type of work.

56. Draft gears which have been induction-hardened are the subject of a bulletin issued by Precision Gear & Machine Co., Inc. Several advantages for the gears are listed.

57. Moisture testing with electronic instruments is discussed in a folder published by Moisture Register Co. Principles of operation, test methods, and instrument accuracy are given. Each of the two models available for the textile industry is described. There is also a table on the established moisture ranges for various fibers, yarns, and fabrics.

58. "Studies on Nylon Dyeing: Effect of Dyeing Procedures" is the title of a technical bulletin published by Calco Chemical Div. Techniques and methods developed for other fibers have been applied in this study. Exhaustion data is correlated with methods of application and tinctorial values of the final dyeing. Laboratory experiment and data are presented in a fashion which makes the studies useful to the dyer.

59. Surface activity and detergency is covered in a bulletin offered by Foster D. Snell, Inc. Studies on wetting, emulsification, foaming, and detergency are described. A list of techniques used to determine surface-active properties is included. The bulletin is 12th in a series on similar consulting fields.

60. Water-level controls for boilers are presented in a folder published by Magnetrol, Inc. The folder describes the fundamentals of operation, including several sketches. Three main series of models are pictured and their specifications given. Construction features such as the inner liner, new float ball, and easy-to-wire switch housing are outlined.

61. Bio-zymes for starch and protein conversion are discussed in a folder made available by Bio-Zyme Laboratories. The material is used for designing. Characteristics and methods of raising three types of the enzyme are listed.

62. Photoelectric inspection and registration control for textile products are discussed in a bulletin issued by Photoswitch Inc. There are detailed sections on description, operation, special features, specifications, typical applications, installation procedures, adjustment, and maintenance. Wiring diagrams and dimensional sketches are included with several pictures of the unit. Applications include sheeting, labeling, printing, cutting, and packaging machines.

63. A lint arrester which cleans air exhausted from picking, opening and similar machines is described in a folder published by American Air Filter Co. Elimination of the need for settling chambers, or dust basements, is listed as a prime advantage of the lint collector. Details of construction and installation include information on its operation.

64. An open-width vacuum extractor equipped with their reinforced, adjustable slot vacuum extracting box is described by Birch Bros., Inc. in a recent circular. The special devices with which the machine is fitted are listed, and the details of its possible uses are given. Speeds for operation with woolens and worsteds, pile fabrics, rayon, rayon blends, and cottons are included.

65. Ball-bearing history and the theory of the spherical shape are discussed in a pamphlet issued by New Departure. The main part of the booklet is devoted to the method of manufacturing steel balls used in bearings. A convincing set of pictures shows a steel ball being forced through a steel block, demonstrating the load-carrying ability of such balls. The final pages show how ball bearings are constructed.

66. Protective coatings for specialized industrial applications are featured in a brochure prepared by United Chromium, Inc. The chemical-resisting and corrosion-resisting coatings are divided into three series, depending upon the conditions. A list of typical materials for which the coating systems are recommended includes such textile items as the common acids and alkalies, salts, oxidants, and solvents.

67. Simplified air conditioning for textile mills is presented in a bulletin published by R. I. Humidifier and Ventilating Co. The text matter explains the principles of industrial humidification and cooling, and an argument for a single humidifier system is presented. A sketch of a typical installation in a spinning room shows how their system operates.

68. Temperature control of textile-sizing solutions is described and illustrated in a bulletin from Brown Instrument Co. Viscosity of the size proper is claimed to be a determinant of the degree of penetration and coating.

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TEXTILE WORLD, New York 18, N. Y. (June '49)

Bobbins that are truly

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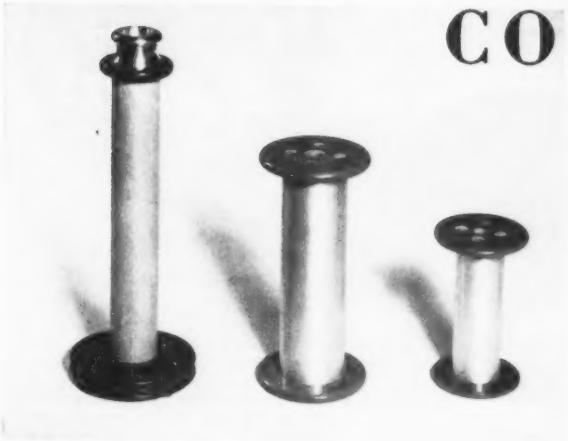


Because of

LESTERSHIRE UNIT CONSTRUCTION

(Patent Applied For)

Made from some stable material such as Aluminum, Magnesium, Bakelite, or their combinations.

REMEMBER

that the yarn content of a filled bobbin weighs several times as much as the bobbin itself.

Is it not, then, more important to have the yarn wound on bobbins that are truly concentric, and therefore in true BALANCE at all times, than to have only the bobbins in balance?

It is to make certain of this permanent balance by concentricity that Lestershire bobbins embody the Lestershire exclusive Unit Construction principle, and are made from materials that are not distorted by wear, moisture, or temperature.

Much needless anxiety is expended on the question of dynamic and static balancing of bobbins to lessen spindle wear. Balance without true *concentricity*, is of little value. Only a stable material can be manufactured and depended on to remain in both concentricity and balance.

Lestershire's UNIT CONSTRUCTION gives perfect concentricity in bobbins for spinning rayon, nylon, and other synthetics, greatly reducing spindle wear and assuring long trouble-free life of bobbins.

Send for all the facts about Lestershire Unit Construction

LESTERSHIRE SPOOL & MFG. CO.
JOHNSON CITY, NEW YORK

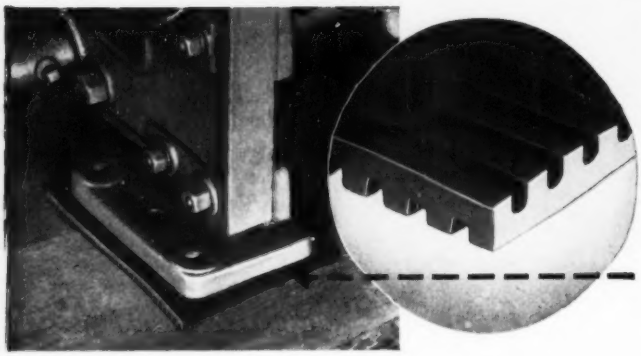
Branch Offices and Technical Service

R. B. Dorman—1000 Peachtree St., Atlanta, Ga.
Joseph H. Windle, Jr.—231 So. Main Street, Providence 3, R. I.

Odell Mill Supply Co., Greensboro, N. C.
Greenville Textile Supply Co., Greenville, S. C.

W. S. Taylor, Inc., 52 Vanderbilt Ave., New York 17, N. Y.

How to take the "Wear and Tear" out of VIBRATION



...and look at the results you get with these ISOMODE* PADS

You're sure to improve operations and save money by controlling vibration and impact. For experience has shown in countless cases how hard strains and stresses are on machine adjustments, on men, on buildings. Now, you can lick the problem economically with Isomode Pads. From the oscillograms taken at a typical installation, you can actually see the great reduction in vibration transmitted to the floor!

Isomode Pads are effective under practically all machines. The more machines they're used under, the more noticeable the improvement. No nerve-wracking jars! Less noise! You conserve manpower efficiency, protect accuracy of machines. *In most instances, you can eliminate bolting to floor or special bases.*

Use Isomode Pads under *any* weight of machinery. A 30,000 pound press? Pads are ideal! A 50 pound bench tool? Pads do a job there, too! Merely cut them to area required from standard sizes up to 18"x18"— with ordinary hand shears.

Why not try some under a troublesome piece of equipment? You'll see for yourself the same, outstanding performance that is satisfying users in over *5000 installations!* **Write for this bulletin!**

BEFORE: Oscillogram of floor vibration. The loom was bolted to a wooden floor, to keep it from "walking," and the vibration of the floor was transmitted to adjoining areas.

AFTER: On Isomode Pads, the loom transmitted negligible disturbance, as evident in this oscillogram, taken at the same point. Noise was tremendously reduced — and no hold-down was required.

*Reg. U. S. Pat. Off.

THE MB MANUFACTURING COMPANY, INC.
1084 State Street, New Haven 11, Conn.

Questions AND Answers

Temperature Controls Save Slasher Heat

Technical Editor:

In an article on textile dryers in the March issue of TEXTILE WORLD, there was some discussion as to the relative efficiencies of dryer temperature controls. It appears from the article that there is a difference in dryer efficiency when the control is on the steam input and when it is on the exhaust line.

I would like to have additional information on this subject in order to make a more complete analysis of the two control methods. (9302)

The comparison in the March issue was not between a slasher equipped with controls on the intake line and a slasher with controls on the exhaust line. Slasher B had controls on both lines, while Slasher A did not have controls.

As shown in Table 4 in the article, Slasher A had a heat-transfer efficiency of 48.5%, against 47.5% in Slasher B. The cheaper operation of B resulted from the fact that it extracted more heat from the steam than A extracted. The reason, of course, was the temperature controls on the input and exhaust lines of B. Slasher B got enough heat from 1.99 lb. of steam to evaporate a pound of water, while A used up 2.18 lb. of steam per pound of water removed.

Steam put into Slasher A had 1181 Btu. per pound, and exhaust contained 224 Btu. per pound. Steam put into Slasher B had 1150 Btu. per pound, and the exhaust had 136 Btu. Thus, Slasher A extracted 957 Btu. per pound of steam, against 1014 Btu. for B.

An odd point is that with this better heat extraction Slasher B still had a slightly lower heat-transfer efficiency. Slasher B got the heat from the steam, but it didn't use it after it got it. The explanation is that too much moist air was allowed to remain above and in contact with the yarn in the drying area. No moist-air-removal system was provided. Slasher A, therefore, with only a poor system for removing moist

Good from any viewpoint

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PITTCIDE
(Special Calcium Hypochlorite)
BORAX
PACIFIC CRYSTALS
(Sodium Sesquicarbonate)

FROM THAT OF YOUR MANAGEMENT—
Columbia policies foster profitable business relationships.

FROM THAT OF YOUR TECHNICAL STAFF—
Columbia manufacturing controls eliminate production difficulties arising out of variances in quality and grading.

FROM THAT OF YOUR PURCHASING DEPARTMENT—
Columbia plant locations and expeditious handling of your inquiries and orders assure fast service.

•

Yes, from any viewpoint, Columbia offers definite advantages as your source of supply for alkalies, chlorine and related chemical specialties. Pittsburgh Plate Glass Company, Columbia Chemical Division, Fifth at Bellefield, Pittsburgh 13, Pa.

COLUMBIA CHEMICALS

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PITTSBURGH PLATE GLASS COMPANY

You take a chance as long as human eyes must read . . . human minds must remember . . . and human hands must write weight figures! Human errors at weighing points *directly affect your costs, profits and customer relations.* Stop these losses now with PRINTED weights—today's better way to weigh!

PRINTWEIGH

STOPS HUMAN ERRORS

Toledo PRINTWEIGH Scales give you big, clear *printed* figures . . . *accurate printed records* of each weighing operation . . . positive assurance that your weight facts are right *every* time! Prints on thick tickets . . . on large or small sheets . . . on strips . . . with extra copies. Split-second speed! Keeps weight records *right* in receiving, shipping, stock rooms, batching and many other weighing operations for industry. Write for bulletin 2021. Toledo Scale Company, Toledo 12, Ohio.

TOLEDO

HEADQUARTERS FOR SCALES

Questions and Answers

(Continued)

air, actually made better use of the heat it extracted from the steam.

The smart trick, as you well know, is to provide temperature controls on the intake and exhaust lines and also a moist-air-removal system.

Narrow-Fabric Warp May Need To Be Sized

Technical Editor:

We are producing narrow-fabric mattress binding with unsized warps of 300-den: viscose rayon, with 10 tpi. twist. To increase the brightness of the design in the tape, we have tried using 300-den. rayon with only one to two turns per inch. This yarn has made an attractive tape for our customer, but our production has suffered due to the use of filling twist in the warp. We understand other firms are using filling twist in their warps successfully. Are they sizing the yarn?

I am inclosing a sample of the tape in question. (9304)

Unquestionably, sizing your warp yarn will considerably decrease your yarn breaks during weaving.

The main difficulty in weaving the design with unsized yarn that has one or two turns of twist is that the filaments are easily damaged by the yarn that has 10 tpi. The low-twist-yarn filaments have a tendency to cling to the twisted yarn; they are broken and strip back along the yarn until they form a "snowball." This slub usually breaks the rest of the filaments in the yarn when it reaches the harness or reed.

Maximum tension might help. The tighter the low-twist yarn can be held in the loom, the less will be the tendency for the filaments to stick to the other warp yarns.

Another possible help would be to use decorative yarn with a few more turns of twist—say, five per inch. If woven with yarn of this twist, the design would spread on the ground yarn as the yarn in the sample does. However, the spreading of the yarn would be less and the brightness of the pattern would be reduced unless more yarn ends were used in the pattern.

Sizing with a compound that would not need a desizing process later would definitely be a help in weaving. A satisfactory compound should be easily obtainable.

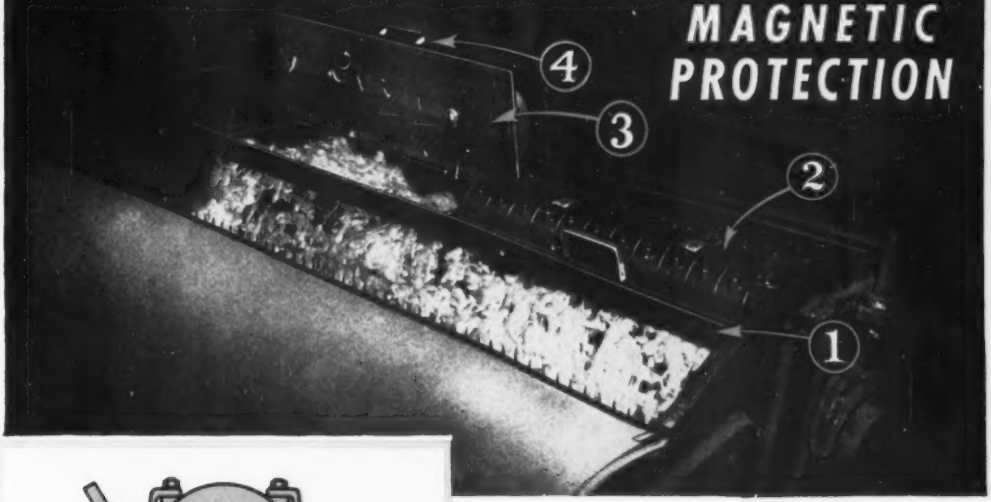
Bad Blending of Stock May Cause Cockles

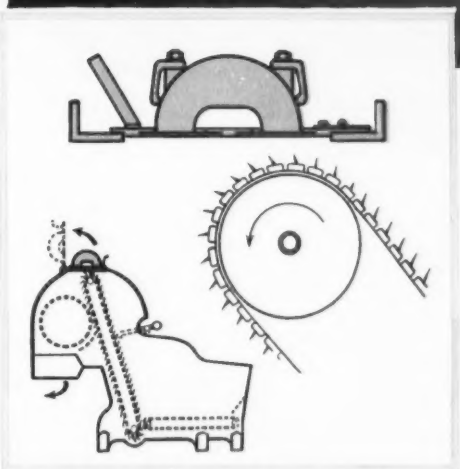
Technical Editor:

We are having trouble with cockles appearing in the cloth we are making.

The cloth is automobile-upholstery fabric and is made of a blend consisting of

Eriez Magnets give more efficient and simplified MAGNETIC PROTECTION





1. Supporting angle iron.
2. Magnetic Separator in working position.
3. Magnetic Separator swung up for cleaning.
4. Handle for swinging back hinged Magnetic Separator.

The Eriez Magnetic Separator, shown above, is built for suspension over spiked apron feeders. This application assures superior cleaning results because the magnet is operating at a point where materials are opened and traveling at low speeds. Eriez Magnetic separation is simple. As material is conveyed to the top of the apron, it passes into the magnetic field where tramp iron is removed. Eriez magnets can be built any size required in order to fit existing or new machinery.

POSITIVE protection from fires and machinery damage caused by tramp iron is provided when Eriez non-electric permanent magnetic separators are installed in textile processing lines. The Eriez magnet is simple, requires no maintenance other than cleaning of collected trash. It is easily understood, maintained and installed by ordinary labor. There is no operating cost . . . The Eriez is light in weight, extremely flexible in design and economical in cost. It presents no additional fire hazard of its own to the process protected. The magnetic strength of Eriez Magnets does not diminish. It is permanent—the power is always there. No chance of electrical failure or human forgetfulness. Eriez Non-Electric Permanent Magnets are effective in removing Tramp Iron from all types of fibers. Submit your tramp iron removal problems to us, we will be glad to help in their solution.

TW-6

Please send bulletin No. 104A and the following:

Data on Eriez Magnets for:

☐ Wool ☐ Cotton ☐ Worsted ☐ Other processing lines

Eriez data on: ☐ Gravity Conveyor ☐ Mechanical Conveyor

☐ Pneumatic Conveyor ☐ Equipment on Processing Machines

Name.....

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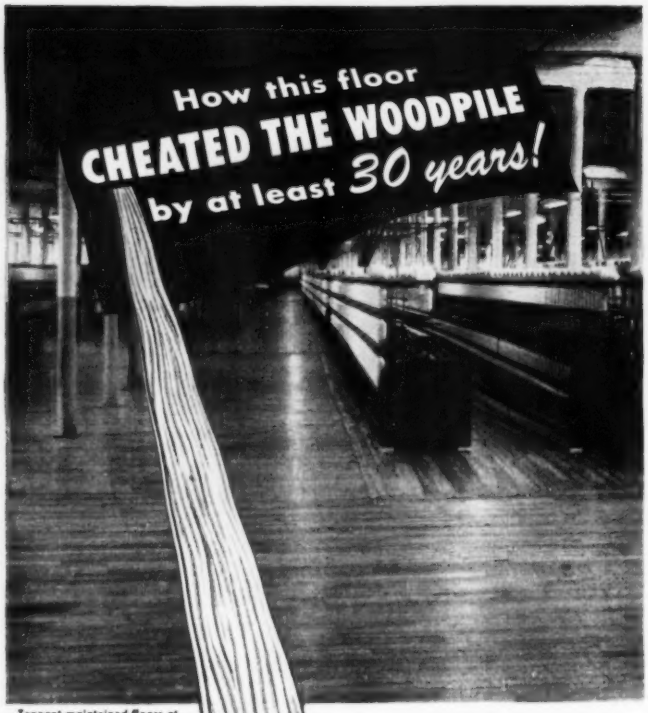
● *When It's Magnetic Protection . . . See Eriez First*

ERIEZ MANUFACTURING COMPANY

501 East 12th St. • ERIE, PA.



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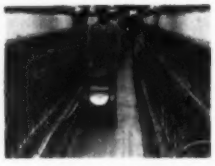
Transformed like magic, this 30-year-old floor —once dark, rough and spongy from scrubbing—is now good for another 30 years. Saved from costly, premature replacement, it's been made bright, smooth and durable again—by low-cost reconditioning with the TENNANT System.

RECONDITIONS your floors. Gets rid of dark, rough, oil-soaked fibers . . . provides a smooth, bright, new-wood surface.

HARDENS floor surface by special sealing process . . . fills, binds and toughens fibers to resist dirt penetration.

DRY CLEANS; ends scrubbing! Avoids muss, saves manhours, reduces accidents . . . assures cleaner floors at LESS COST!



YOUR FLOORS STAY CLEAN longer when dry-cleaned instead of scrubbed! With this Tennant Floor Machine, dirt, grime and traffic stains are whisked off and picked up in 1 operation. Leaves smooth, hard, dirt-resistant surface . . . only daily care needed is fast, easy sweeping with dry cotton mop. No muss, easy to use, keeps floors looking like new.

- **Reduces floor cleaning costs.**
- **Makes floors easy to clean.**
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Write today! Ask for "New Floors From Old" article, also "Textile Floor Maintenance" bulletin, etc.

TENNANT FLOOR MAINTENANCE System

Established 1870

OFFICES IN PRINCIPAL CITIES

Questions AND Answers

(Continued)

12¼% nylon, 12¼% rayon, 10% wool (all garnetted stock), and 65% wool not garnetted stock. The yarn is spun on large-package spinning frames and steamed before it is woven on automatic looms.

The cockles do not appear until the cloth is in the finishing process; then they appear quite regularly in the filling. They are about 12 to 14 in. in length. The management says that uneven yarn causes them.

If you have any suggestions on what causes these cockles, I would be glad to hear from you. The nearest thing to this defect that I can see among the illustrated defects you published in your synthetic handbook is Barré on page 94. (9305)

It is true that uneven yarn may cause cockles; but usually cockles caused by uneven yarn can be seen in the loom or on a perch after the cloth is taken off the loom.

One likely source of uneven yarn is uneven distribution of fibers. Fiber length varies considerably in garnetted stock. If long fibers accumulate at one point in the yarn, a thick place occurs. If short fibers accumulate, a thin place occurs in the yarn. If the accumulations are large, they result in a yarn that can readily be identified as uneven. If the accumulations are small, however, the unevenness of the yarn probably will not be noticed.

Since your cockles appear first in the finishing process, the chances are that you have small accumulations of similar fibers. The cockles could be caused by too many fibers of nearly equal lengths together or by too many fibers of one type together. If one element of the blend—say, ungarnetted wool—is concentrated in a small length of yarn, it will have a different diameter and appearance from a small concentration of another element—say, the synthetic fibers.

If fiber lengths or fibers of one type are grouped, they will react differently to the finish. For example, in piece dyeing, the penetration of dyestuff will not be level; in filling, fiber shrinkage will be uneven. Either condition will cause the kind of defect you described.

Wool-Broadcloth Finishing Requires Many Processes

Technical Editor:

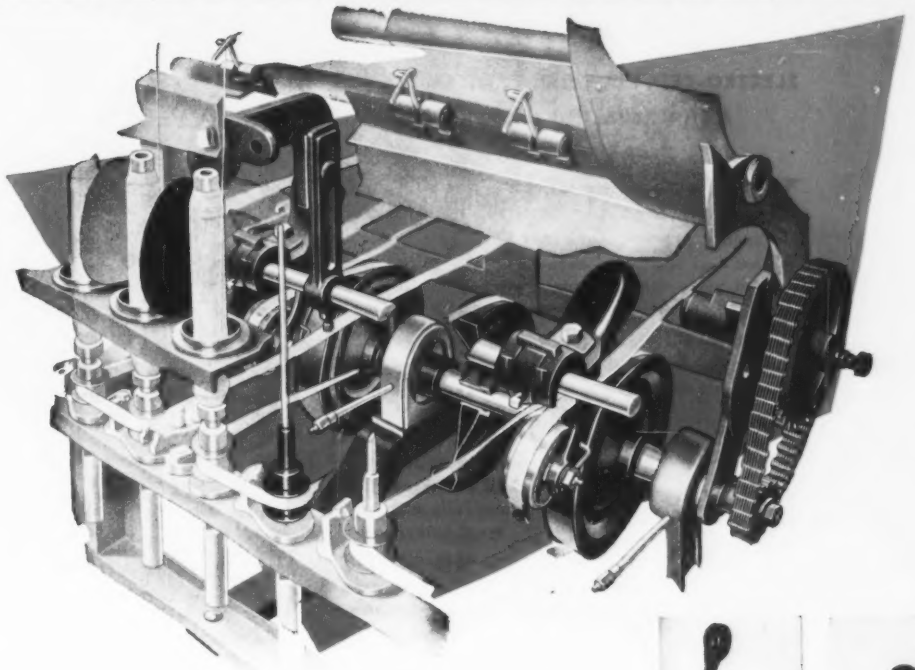
What steps are usually followed in finishing wool-broadcloth fabrics? Are teasel gigs and nappers ordinarily used? (9303)

Teasel gigs and nappers are used in producing quality wool broadcloth. Generally, two sizes are necessary: a large cut teasel and a small uncut teasel.

Producing this fabric is a compli-

give your old frames that new look

with MEADOWS Conversions!



B-205

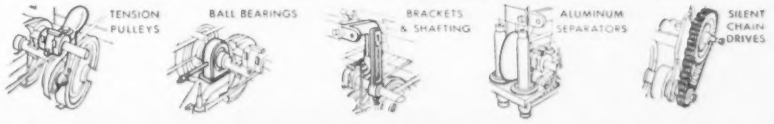
B-212-R-213

B-214-LA

B-216-LA

● The present cost of new frames, plus the natural desire to improve and utilize existing equipment, has prompted many mills to modernize their old frames, (either band-driven or old style tape-driven) with *Meadows Conversions* . . . Consisting of silent chain-drive; individual driving pulleys; high-strength ground and polished shafting (mounted on heavy duty ball bearings); ball bearing tape tension pulleys, and light weight solid aluminum alloy separators—a Meadows Conversion means less vibration, low power consumption, uniform speed and twist, fewer ends down, and *no more cylinder trouble!* . . . We engineer and service each installation, manufacture all parts, and will be glad to have our representatives survey and estimate your frames without obligation, in their respective territories. *More than 8 million spindles equipped with Meadows Ball Bearing Tension Pulleys.*

MEADOWS MODERNIZERS



MEADOWS MANUFACTURING COMPANY • ATLANTA, GEORGIA

Representatives: **JAMES P. COLEMAN, P.O. Box 1351, Greenville, South Carolina • WALTER S. COLEMAN, P.O. Box 722, Salisbury, North Carolina • MATTHEWS EQUIPMENT COMPANY, 93-A Broadway, Providence, Rhode Island • R. L. HOLLOWAY, Atlanta, Georgia**

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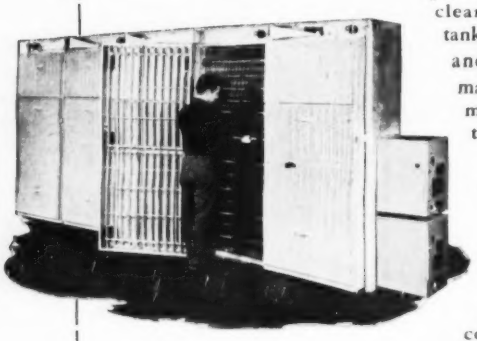
with simplified maintenance

ELECTRO-CELL KEEPS DUST AND SMOKE OUT AND OPERATING COSTS DOWN

YOU get super-clean air at a saving with the installation of an AAF Electro-Cell. This modern electronic precipitator gives positive protection against dust and soot—even down to such fractional micron sizes that its true efficiency can only be evaluated by the Discoloration Method of testing.

Removable collector plate cells permit selection of the maintenance method best suited to your operation. Cells may be manually washed and re-oiled in place; removed for easy cleaning in a special tank, or washed, dried and recoated automatically with minimum interruption to operation.



The Electro-Cell's sectional construction reduces weight of parts, eliminates multiplicity of electrical connections, protects wiring from dirt and water. And its full-height hinged or removable ionizers minimize electrical losses, reduce ozone and simplify replacement of ionizing wires.

If you want positive protection against soot and dust plus proven savings in operation and maintenance, get complete Electro-Cell data now. Just contact your local AAF representative or write direct for Bulletin No. 252.

AMERICAN AIR FILTER COMPANY, INC.
304 Central Avenue, Louisville 8, Kentucky
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AAF
AIR FILTERS
AND DUST CONTROL EQUIPMENT

Questions and Answers

(Continued)

cated procedure. The following steps, for example, are used on 13-oz. women's broadcloth coating.

1. Full
2. Scour
3. Carbonize
4. Neutralize
5. Crab
6. Wet-out pad
7. Wire-card face nap
8. Double-cylinder teasel rod gig
9. Double-cylinder water brush
10. Steam finishing machine
11. Tack
12. Kettle dye
13. Wet laying-down gig
14. Tenter dry
15. Shear
16. Decate
17. Spot-proof.

Blue Spots on Collars Caused by Dye Deposits

Technical Editor:

We are inclosing five white collars on which you will find some small blue spots. These spots are not present in the material until after the fabric has been put through the acetone process to make it firm. We can find nothing in our plant that might cause the spots. (9289)

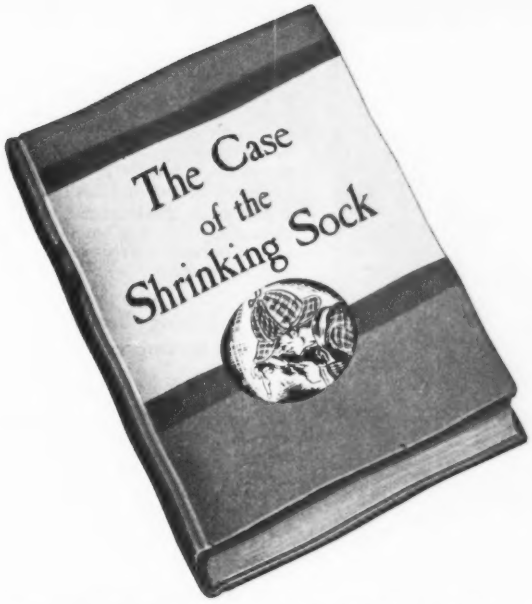
The blue spots that show up on the collars after they have been fused in the acetone process are dye spots.

On close examination, the spots appear to be on the surface and are somewhat spread out, much as if the collar had been in contact with a roll or container that had the blue dye on its surface.

The fabrics used in making the collars have definitely received a bluing treatment, which is common practice in most finishing plants, to produce a proper shade of white.

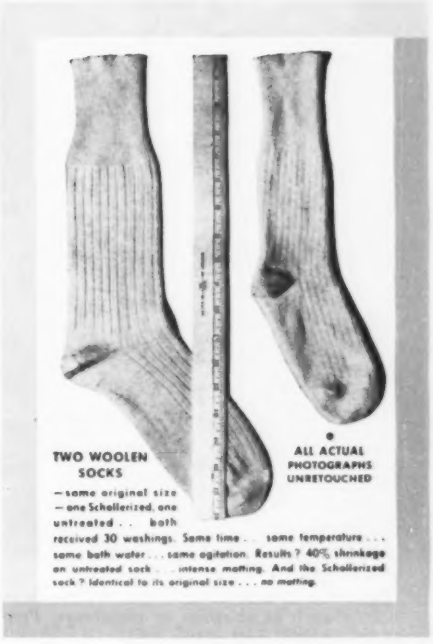
We understand that the stiffening process consists of fusing a cellulose-acetate fabric with the same cloth that is to be used in the body of the shirt. All of the spots are on the cotton cloth side of the collar and not on the acetate liner. This would seem to indicate that the bluing was applied unevenly or was not dispersed or dissolved when the cotton fabric was given such a treatment.

Some dyes used for tinting are soluble to some extent in acetone and might have a tendency to spread. Even if the tinting color were well dispersed, it is still possible for minute aggregates of this color to be deposited on the cloth in a concentrated form and be almost invisible. When passed through the acetone bath, these small aggregates might have a tendency to spread,



"THE CASE OF THE SHRINKING SOCK" is a sad but dramatic story! Like any good wool product, it had wonderful natural characteristics until it came into contact with its mortal enemy, the Wash Tub! Here it struggled valiantly to retain its fine texture, its feel and hand . . . courageously to keep its natural resiliency, elasticity and appearance. But, alas, even the most careful laundering brought on Matting and Felting, and that infamous team rapidly ended its useful life!

BUT, the story is not without its moral: If the Sock (or, in fact, any wool product) had been SCHOLLERIZED, it would have laughed at the nefarious aims of the wash tub and its cohorts—Matting and Felting! No matter how many times it came into contact with its antagonists, it would have never matted and felted, never have shrunk from its original knitted or woven size. Its useful life would have lasted for the life of the fabric!


TWO WOOLEN SOCKS
—same original size
—one Schollerized, one untreated . . both received 30 washings. Same time . . same temperature . . . same bath water . . . same agitation. Results? 40% shrinkage on untreated sock . . intense matting. And the Schollerized sock? Identical to its original size . . . no matting.
• ALL ACTUAL PHOTOGRAPHS UNRETOUCHED

Made to size . . . it will stay to size . . . Because it's—

The **SCHOLLER WOOL SHRINKAGE CONTROL PROCESS*** removes the primary cause of wool shrinkage—matting and felting—without any effect upon the inherent resiliency, elasticity, recoverability and texture of the original wool. The treatment of the wool involves the addition of no foreign materials, therefore no change in weight and feel or "hand". Appearance is unchanged while the true comfort and useful life of the processed wool fabric is greatly enhanced. The strength of the Schollerized yarn is generally the same or greater than the original. Extremely flexible in application, wool may be Schollerized in the raw stock, tops, skeins, packages or fabric.

*U. S. & Foreign Patents Pending

Write Today For Full Details On The Amazing Scholler Wool Shrinkage Control Process applied to YOUR product!

Schollerized
WASHABLE WOOL
SAFE TO TUB • SAFE TO RUB

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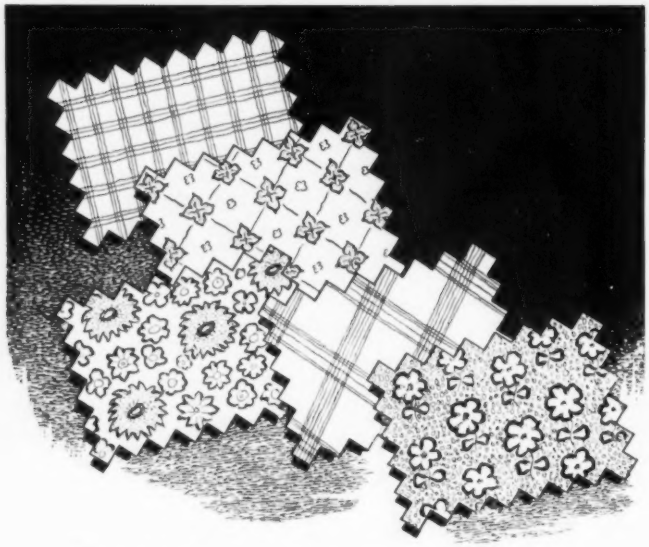
Manufacturers of Scouring, Dyeing and Finishing Materials

COLLINS at WESTMORELAND, PHILADELPHIA 34, PA.

IN CANADA: SCHOLLER BROTHERS, LTD., ST. CATHARINES, ONTARIO

SERVING THE TEXTILE INDUSTRY FOR MORE THAN FORTY YEARS



Pennsalt Hydrogen Peroxide

- **SAFE**—soft handle, high tensile strength fabrics
- **ADAPTABLE**—to modern bleaching methods
- **ECONOMICAL**—on the basis of over-all costs
- **SUITABLE**—for all bleaching problems

Pennsalt Hydrogen Peroxide (H_2O_2) is a bleaching agent that is as versatile as it is economical! Textile Manufacturers find it an ideal bleaching agent for wool, silk, rayon, cotton yarns and woven cotton fabrics.

In the manufacture of woven cotton colored yarn materials such as shirtings or chambrays, Pennsalt H_2O_2 performs a dual function:

- *Helps bring up backgrounds to sparkling whiteness*
- *Develops the vat color to a more insoluble state*

And when you deal with Pennsalt, you are assured of quality products at a fair price. That's because Pennsalt is a *basic* producer . . . manufacturing its products from the ground up! Our experienced representatives may help you get better results . . . at lower cost . . . with Pennsalt Hydrogen Peroxide. Write: Heavy Chemicals Division, Pennsylvania Salt Manufacturing Co., Philadelphia 7, Pa.

Other PENNSALT Textile Chemicals
Caustic Soda • Soda Ash • Sulfuric Acid
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Potassium Persulphate
Anhydrous and Aqua Ammonia

PENN SALT
chemicals

Questions and Answers (Continued)

thus showing up as definite and obvious blue spots.

First, examine the cotton cloth you receive for any very small blue specks. Second, examine the equipment you use in the fusion process, particularly any metal surfaces that may be heated. It is quite possible that finishing materials, along with the bluing, are deposited on such surfaces and redeposited on the collars.

Crepe Filling Breaks Caused by Improper Tension

Technical Editor:

For some time we have been using shuttles made by three different manufacturers in C&K S-6 looms. In these shuttles we use:

	Denier	Filaments	Turns per inch
1.	100	Rayon 60	54 to 56
2.	150 (2x75)	Rayon 30	55 in singles, 15 in ply
3.	200 (2x100)	Rayon (?)	50 in singles, 15 in ply
4.	150	Rayon 40	3
5.	210 (3x70)	Nylon 34	72 in singles, 35 in ply
6.	12/2	50% wool, 50% rayon	
7.	40/2	Cotton.	

Looms running fillings Nos. 1, 2, and 3 are on crepe constructions. We are having a great deal of trouble with filling breakage and would like to have any information you can give us as to furring, tension, etc.

We do not have excessive trouble on the other looms, but any pertinent information on shuttles on these fillings will be appreciated also. (9296)

Filling breakage may be caused by too much or too little tension. Not enough tension will cause the yarn to balloon and either break or be cut by the shuttle coming in contact with the box, mouthpiece, or binders. Most shuttle manufacturers are recommending a patented tension eye that gives good results. Lining the shuttles with muskrat fur running the full length with the exception of the feeler slot should give good results.

A study should be made to determine whether the filling is breaking or being cut by the shuttle. A shuttle that does not throw straight will cause trouble by cutting the yarn. Shuttle clips must hold the bobbin perfectly straight in the shuttle to prevent the filling from breaking. Rough bobbins or rough handling should be avoided.

If you would like to ask a technical question and have it answered in the Questions and Answers columns, use the card on page A in the Reader-Service Department on page 173.

See page 157 for details of TEXTILE WORLD's $200 Prize-Kink Contest which begins with this issue.

The Reserve Strength Built Into

To minimize the chance for damage in shipping, and to create good will with your customers, take advantage of the extra strength found in Gaylord Boxes.

Rigid standards that demand superior raw materials and continuous quality control through every step of manufacturing give Gaylord Boxes that reserve strength so important to the safety of your product.

You'll find Gaylord Sales Offices in the cities listed below ready to help you solve your packaging problems. Call the one nearest you.

GAYLORD CONTAINER CORPORATION General Offices: **ST. LOUIS**

- Corrugated and Solid Fibre Boxes
- Folding Cartons
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- Kraft Paper and Specialties

New York • Chicago • San Francisco • Atlanta • New Orleans • Jersey City • Seattle
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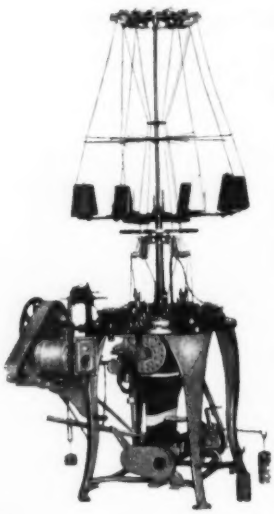
WITH THE "BRUSHED-IN"
SALES APPEAL

KEEP YOUR EYE ON COST AND QUALITY

Changes in your business comes quickly, so you should be prepared to meet market demands without sacrificing cost or quality in your knitted garments.

Changes can be made quickly on **LEIGHTON** Circular Knitting Machines which feature the famous "outer dial' type of knitting. The face of the fabric is in full view—an advantage on plaited fabrics and with soft yarns.

Brushing horizontally right on the machine adds greatly to the quality and sales value of garments knit on Leighton Machines and keeps the cost down too.



LEIGHTON MACHINE COMPANY
LEIGHTON
MANCHESTER NEW HAMPSHIRE
ESTABLISHED—1873
INCORPORATED—1894

Carding Practices

(*Continued from page 117*)

Most of the 27 mills pull from the back because it is more convenient. Other reasons given by a few mills were that pulling from the back is less expensive, saves time and labor, and it's better to pull toward the points of the wire.

Fillet on grinding rolls is changed once a week by most mills. In some cases, rolls used on doffers are recovered each week-and-a-half or two weeks. A large majority of the 35 mills that answered Question No. 6 uses fillet with No. 40 grit, two use No. 30, one uses No. 24, and five use No. 7.

Mill R reported: "The life of the fillet can be increased by an occasional washing with a clean fluid."

Mill V stated: "We check our rolls, each time they are moved, for oil or worn places. If any oil is on the fillet, we clean it off with a steel brush."

NEPS. Besides the cotton itself, fast carding was thought to have more effect on the number of neps in the web than any other factor.

Mill M reported: "An improvement in cotton, even though slight, is far more effective than anything you may do to the card.

"Slowing the card speed to deliver fewer pounds per hour has been our second most effective step. Grinding rates third, and stripping fourth."

Mill C reported: "Results of tests where a card ran 600 hr. before grinding, with all laps made from the same mix, were as follows:

"The nep count showed a gradual increase up to 360 operating hours. The increase was 11% at this point. After 360 hr., the flat setting was changed from 0.010 in. to 0.007 in. The nep count immediately dropped about 24% and remained constant throughout the remainder of the test.

"At the end of 600 operating hours, the nep count was lower than at the beginning of the test by 11%.

"We have found that the nep count increases about 5% each half hour after stripping, up to 3 hr. During the fourth hour, the increase is about 10% each half hour.

"No tests have been made over a period longer than 4 hr. These tests were made with vacuum stripping and Strict Low Middling cotton.

"Fine-fiber cotton has more effect on nep count than any other property thus far noticed. A special test with mixes prepared from fine- and coarse-fiber cottons showed the following results:

Coarse fibers (Permeameter reading over 19 cm.), 46 neps per 100 sq. in.

Fine fibers (Permeameter reading

AHCOVELS

put nature's softness in your fabrics

- AHCOVELS are permanently resistant to usual laundering and dry cleansing processes.
- AHCOVELS are stable under extreme heat.
- AHCOVELS are odorless and will not discolor.
- AHCOVELS E. F. and R, assure full retention of light fastness of any color.

There is a *specific* Ahcovel to give cotton, wool and synthetic fabrics finer finishes, softer drape and hand . . . and with economy too. We will be glad to supply you with additional information or recommendations with regard to specific finishing problems on request.

ARNOLD, HOFFMAN & CO., INCORPORATED

MANUFACTURING CHEMISTS

ESTABLISHED 1815 — PLANTS AT DIGHTON, MASS., CHARLOTTE, N. C. AND CINCINNATI, OHIO

PROVIDENCE, RHODE ISLAND

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1865

We do package dyeing on tubes, skein and warp dyeing, warp mercerizing, and sizing.

1949

Yarns we process include cotton, rayon, worsted, nylon, blend and novelty yarns.

4500 WORTH ST. **PHILADELPHIA 24, PA.**

under 12.5 cm.), 178 neps per 100 sq. in.

"A comparison test between rib and perforated screens showed the nep count to be higher for the perforated screens by about 9%."

About half of the mills reporting prefer to creel finisher drawing frames solid; half prefer to spot creel.

Advantages cited for solid creeling included:

1. Fewer machine stops.
2. More even finished sliver.
3. Less walking by the drawing tender.
4. Saving of floor space.
5. More convenient for cleaning the frame.

Advantages given for spot creeling included:

1. Less waste.
2. Fewer cans tied up.
3. Fewer cans to piece up.
4. More even blending.
5. Saving of floor space.

Swiss Mill

(*Continued from page 103*)

cade gets the amount of steam necessary to bring the return water temperature up to 327° F. In other words, the calories used for heating the return water are equal to the vaporization heat of the steam consumed in the cascade.

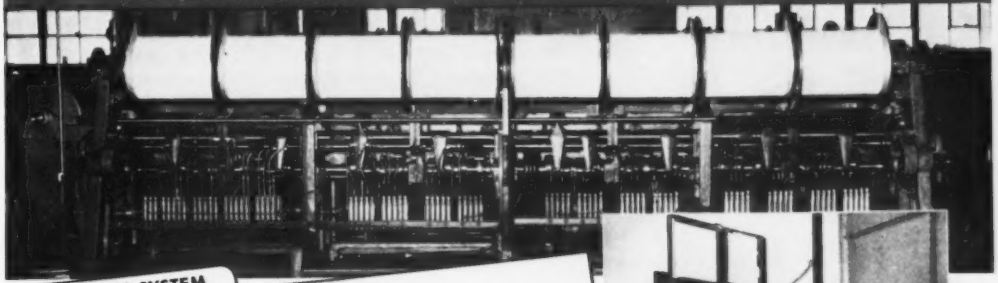
LOW HEAT LOSS. The heat losses, caused by the circulation of the hot water from the cascade to the plant and back to the cascade, are very low. They amount to about 3%. This low loss is possible because all pipes are very efficiently insulated. Also, the valves are protected with a special insulation. Protection of valves is quite important because the radiation of an ordinary valve corresponds to the radiation of about 25 to 35 ft. of pipe.

Whereas the hot water is used for heating purposes only and circulates permanently, there is a special warm-water system for direct water consumption and for the heating of offices. This warm water is not under pressure. It has a temperature of 176° F. and is generated by a small boiler consisting of a system of heating coils. These coils contain hot water of 327° F.

All the installations used for producing, mixing, circulating, and distributing hot and warm water are in the same room as the electrical distributing plant. They are also self-operating and require only a minimum of supervision.

AIR CONDITIONING. The outdoor climate is very unstable, temperature varies between −10° F. and 86° F.,

Mass Centralized Lubrication



LINCOLN SYSTEM

Resulted in
PRODUCTION INCREASE of 22%
POWER SAVING of 20%
at KO-NIT MILLS*

This New Jersey knitting mill has installed Mass Centralized Lubrication on a battery of ten Reiner tricot-knitting machines with a Lincoln Centro-Matic Lubricating System. This system automatically lubricates 1030 points simultaneously. Lubricant is pumped direct from an original refinery container—assuring the delivery of the right oil. A Centro-Matic Injector connected to each bearing predetermines and measures the right quantity, and the automatically, time controlled pump insures application of the oil at the right time while machines are in operation.

Ko-Nit Mills report that this system has been responsible for a production increase of 22% and a power cost reduction of 20%. The entire installation cost $7500.00 and paid for itself in 90 days. This is one of the many plants that have converted to Mass Centralized Lubrication with Lincoln's Centro-Matic Systems.

Lincoln's qualified lubrication consultants will gladly work with you and recommend the system best suited to meet your requirements. Call your Lincoln Distributor or the Sales and Service Office nearest you. Copies of Bulletins on Centro-Matic Systems will be sent upon request.

**Detailed information will be furnished upon request.*

SALES AND SERVICES OFFICES

BOSTON—H. G. Davis, Inc.—Kenmore 5176
BRIDGEPORT—H. G. Davis, Inc.—Bridgeport 5-8160
CHICAGO—Lincoln Engineering Co. of Ill.—Calumet 5-6022
CLEVELAND—Lincoln Lubricating Systems, Inc.—Express 4334
DETROIT—Lincoln Engineering Co.—Madison 3484
EAST ORANGE—Lincoln Lubricating Systems, Inc.—Orange 3-3188
FORT WORTH—Fritz Keller—7-7211
LOS ANGELES—Lincoln Engineering Co. of Calif.—Richmond 0151
MILWAUKEE—Lincoln Equipment Service—Division 1191
NEW YORK—Lincoln Lubricating Systems, Inc.—Trafalgar 7-7900
OAKLAND—Lincoln Engineering Co. of Calif.—Higate 6130
PHILADELPHIA—Lincoln Engineering Co.—Locust 4-3877
PITTSBURGH—Lincoln Engineering Co.—Montrose 1444
PORTLAND—Pioneer Equipment Co.—Lancaster 0488

• Apply The Right Lubricant • In The Right Quantity • At The Right Time

Bullneck Surface Check Grease Fitting . . . the modern fitting with the ball in the top.

• • PIONEER BUILDERS

LINCOLN ST. LOUIS LUBRICATING EQUIPMENT • •

849-19

LINCOLN ENGINEERING COMPANY • 5742 NATURAL BRIDGE AVE., ST. LOUIS 20, MO.

MILL OWNERS AND PLANT SUPERINTENDENTS AGREE THAT ABBOTT Automatic QUILLERS *GIVE MORE PRODUCTION AT LOWER COST!*

"That's right, P. J.! We're doing over 2000 bobbins per hour per operator right now. These Abbott's are going to pay for themselves in 6 months!"

P. J. is just one of many mill owners who have been amazed at the production records of these Abbott Quillers — pleased at the way they slash costs.

These great filling winding machines give you better wound, better weaving bobbins that make better fabrics. And only Abbott has Traveling Spindle Units which require fewer operators and eliminate needless floor labor. A single Automatic Head per machine feeds an empty bobbin into each Traveling Spindle Unit as it passes by and doffs a full bobbin at the same time. Empty bobbins are fed automatically into the Automatic Head from a supply hopper holding several thousand empty bobbins. This simplified operation cuts maintenance overhead, greatly reduces manufacturing cost to you.

UP your production, LOWER your costs by writing now for further information about Abbott Quillers.

ABBOTT MACHINE COMPANY

FACTORY AND MAIN OFFICE

WILTON, NEW HAMPSHIRE

SOUTHERN OFFICE GREENVILLE, SOUTH CAROLINA

TEXTILE WORLD'S

Guide to Exhibitors

TEXTILE WET PROCESSING EQUIPMENT AND SUPPLIES EXPOSITION

Names, booth numbers, and other data of exhibits at the Wet Processing Show at the 71st Regiment Armory, 34th Street and Park Avenue, New York, from June 6 to 10, 1949, are given below:

AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS. Booth A

Test instruments and methods for evaluating fastness of colored textiles to light, washing, perspiration, bleaching, crocking, atmospheric fading of dyed acetate, fire resistance, flammability, insect pest resistance, rain; and other water resistance testers. Detergency tester for predicting mill performance of detergents. Special metal tubes and containers for speeded Launder-Ometer work. Newly standardized Perspirometer. Rep.: G. R. Thompson, E. P. Johnstone.

BEMIS BRO. BAG CO., Brooklyn, N. Y. Booth 4

Cotton and burlap bags; waterproof paper-lined bags; burlap tubing. Rep.: R. R. Radford, E. P. Fuller.

S. BLICKMAN, INC., Weehawken, N. J. Booth 47

Stainless steel dyeing equipment; round corner construction. All stainless steel dye box with variable speed control. Rep.: Bernard Blickman, Newton Blickman, T. Van Wyngarden, G. F. Langhirt, E. H. Olsen, Charles Maffer, William Kahn.

H. W. BUTTERWORTH & SONS CO., Philadelphia, Pa. Booth 78

Models of textile finishing machinery and continuous bleach machinery. New Junior bleaching system. Rep.: DeHaven Butterworth, Edward Pierce, Joseph Tucker, Wallace Taylor, Thomas Davis.

CADGENE MACHINERY CO., Paterson, N. J. Booth 24

Dye beck of all monel with variable speed drive; sample printing machine; examining machine. Rep.: Jacques Cadgene.

C. R. A. CORP., New York. Booth 41

Measuring machine for checking fabrics, electric cloth-laying machine for woven materials, electric machine for laying up tubular materials. Rep.: Dave Grossberg, Al Greene, Bernard Nathanson, Harold Liebman, Sol Lerner, H. Bard.

CRUCIBLE STEEL CO. OF AMERICA, New York. Booth 62

All stainless products used in textile wet processing industry; yarn processing theme; modern stainless sheet and strip mill. Wider stainless sheet 4 strip as Trent Weld stainless tubing. Rep.: R. E. Christie, A. E. Van Cleve, J. D. Glenn, S. R. Reynolds, Michael Stumm, E. W. Hopper.

CUTTING ROOM APPLIANCES CORP., New York Booth 41

Electromatic cloth spreader preparatory to cutting; electric knit-goods laying-up machine; measuring and inspecting machine; metal sectional cutting tables. Rep.: Dave Grossberg, Al Greene, Sol Lerner, Bernard Nathanson, Harold Liebman, A. I. Gilbert, H. Walter Gilbert, Harrison Bard, Lillian Newcorn.

EASTERN STAINLESS STEEL CORP., Baltimore, Md. Booth 2

Stainless steel sheets; new "100 Grit" finish. Rep.: N. L. Ellis, C. H. Martin, Jr., R. F. Johnston, E. H. Neill, C. T.

GUIDE TO EXHIBITORS *(continued)*

Lynch, J. A. Emich, R. G. Leary, E. A. Haggenmuller, I. C. Clingan, W. H. Braun.

GENERAL DYESTUFF CORP., New York. Booth 16

New technical developments in the application of dyestuffs, including laboratory model of a continuous dyeing machine. Rep.: J. Robert Bonnar, H. E. Hager, J. H. Hennessey, L. S. Thompson, H. C. Borghetty, P. J. Choquette, H. Luttringhaus, J. E. Flint, F. F. Jacobs, E. Hansen.

GLASCO EQUIPMENT CORP., Paterson, N. J. Booth 83

Stainless steel dyeing equipment; new design stainless steel jig enclosure; new design stainless steel enclosed dye beck; stainless steel dyehouse truck. Rep.: M. G. Peck, Waldimir Semenyna, W. A. Swanson.

HART-MOISTURE-METERS, New York. Booth 8

Electrical moisture meters; featuring new meter type for a.c. line operation. Rep.: William E. Barnett, R. S. Hart.

JAMES HUNTER MACHINE CO., No. Adams, Mass. Booth 44

Dye kettle. Fielden Electronics, Inc., Drimeter. Positive jet-circulation system; herringbone hump reel. Rep.: J. H. Hunter, J. E. Burdick, Ernest Cannity, R. V. Coles (Fielden Electronics, Inc.).

INDUSTRIAL INSTRUMENTS, INC., Jersey City, N. J. Booth 7

Electrolytic conductivity apparatus for acid and caustic concentration control; improved adjustable conductivity cells and apparatus for carbonization and scouring: Rep.: Philip M. Gottwald, Robert Rosenthal, John Williamson.

KEARNY MFG. CO., INC., Kearny, N. J. Booth 45

Hyrolit yarn-conditioning machine for conditioning yarn on dye packages and cones; Midget psychrometer; illustration of Hygrolit cloth-conditioning and dewing machine; finishing chemicals; Herbert Oxy Neutralizer Bar for static electricity elimination. Rep.: C. F. Egues, K. Heyman, A. R. Robbins, W. O. Slimback.

MICRO-LITE CO., INC., New York. Booth 3

Micro-Line pick counter. Direct fabric-count readings with lens sharpened intensity. Rep.: Albert Gelardin, D. Green, J. B. Loughlin Sr., J. B. Loughlin Jr.

MOUNT HOPE MACHINERY CO., Taunton, Mass. Booth 15

Guiding and feeding equipment; opener equipment; freewheeling expanders; weft straighteners. Running demonstration of cloth opening equipment, featuring adjustable tension squeezer, overhead sheaves, guiders, and newly designed draw roll. Rep.: J. D. Robertson, J. B. Hammett; John H. Andresen, H. Hartley, and other representatives.

JOHN P. NISSEN, JR., CO., Glenside, Pa. Booth 75

Writing tubes for marking textiles with dye-resist and bleach-proof inks. Rep.: Chandler Ford, Milton A. High III.

PERFECTING SERVICE CO., Chicago, Ill. Booth 14

Rotary Union system of supplying steam, water, and other industrial fluids from a stationary pipe line to revolving cylinders or drums. Ball-bearing, monel-bellows construction, giving positive sealing without adjustments or maintenance; higher speeds, temperatures, and Dowtherm applications. Rep.: Edwin C. Shaw, and others.

B. F. PERKINS & SONS, Holyoke, Mass. Booth 99

New all-water pressure dampener, "Mist-Spray"; tensionless dye-jig driving head, adaptable to any present jig. Rep.: J. L. Perkins III, Thomas E. Kane, R. E. Getchell, James Stewart.

RICHMOND OIL, SOAP & CHEMICAL CO., INC., Philadelphia, Pa. Booth 19

Scouring wool and worsted yarn; grease removal from half hose. Scourol, Scourtex, Grafout, Transout. Rep.: William Alkus, Henry M. Rubin, Morton W. Levi, John W. Schenkel, David Juelsohn.

STANDARDS BRANDS, INC., New York. Booth 76

Diastofor Brand desizing agents. Diastofor D and Diastofor L. C. Rep.: Howard L. Jenkins, W. D. Smith.

STEIN HALL & CO., INC., New York, N. Y. Booth 65

Sizes and finishes. Rep.: Norman Nuttall, and others.

TEN-CO MACHINE CO., Paterson, N. J. Booth 74

Tensionless, continuous dyebeck, adaptable to present equipment. Rep.: Rocco M. Nazzaro, Dan Nazzaro, Armand L. Nazzaro, Roger Horelbeke.

TEXTILE WORLD, New York. Booth 21

Textile publishers. Rep.: Edwin D. Fowle, C. W. Bendigo, William Buxman, W. A. Newell, W. B. Dall, A. W. Fisher, R. L. Chisholm, H. C. Harvey, John White, R. C. Scott, C. Norris Rabold, John Dalton.

TRUMETER CO., New York. Booth 21

New William Birch (Engineers) Ltd. piece-end sewing machines. Trumeter measuring machines with ticket-printing device and new-type flexible rolling section for measurement without slippage or spinning. Rep.: Eric Seligman.

VAN VLAANDEREN MACHINE CO. Paterson, N. J. Booths 59, 60, 61

Reception space. Models of dyeing and finishing machinery. Escorted tours to metropolitan plants to show machinery in actual operation. Rep.: C. H. Van Vlaanderen, George Van Vlaanderen, A. Barber, G. Ricca.

WALLERSTEIN CO., INC., New York. Booth 20

Rapidase for desizing cottons, rayons, mixed goods. Serizyme for desizing acetates and acetate-rayon mixtures. Soaking and degumming silk, softening wool. Speed of desizing at high temperatures with Rapidase; uniformity of dyeing, clear cross dyes, with Serizyme. Rep.: James J. Casserly, Eve Samuels, J. A. Clark.

WALTON LABORATORIES, INC., Irvington, N. J. Booth 94

Humidifiers; humidification system which can be used for spot humidification as well as complete humidification. Various models of industrial humidifiers including the filter-protected and the Junior industrial humidifiers. Rep.: William Feldermann, J. Robert Lewis, Charles A. Bourgeois, Ben W. Dickinson.

By Continuing The Use Of All Wood Shuttles

The New

cost Less (over a period of time)

The material used in the *walls* of this Shuttle is a product of the laboratory, — not one grown by nature. Therefore it is absolutely free of defective growth usually found in the products of nature.

Hardwood Compressed or Stapak Walls

Phenolic Impregnated Cloth Walls

Having created the material, the next question was to make it an integral part of the Dogwood base to which it becomes a part. A technique of bonding these various materials has been so perfectly developed that they cannot be separated or torn loose.

The two materials become one through an unusual molecular action of adhesion.

Shuttles made of Duro-Weld have untold advantages, giving maximum strength and smooth wearing surfaces. It's the Modern Method of obtaining every characteristic wanted in a Shuttle.

Only Southern can supply it.

Send for complete data on Duro-Weld.

Go Modern — Go Southern.

A new, modern Shuttle Plant at Paris, S. C. is now open to better serve your needs

Southern Shuttles Division

(Where Science and Continual Experimentation Are Concentrated on Shuttles)

of

Steel Heddle Mfg. Co.

621 E. McBee Ave. **Greenville, S. C.**

Absolute Protection Against Flow Failure

RATOSIGHT FLOW ALARM

The RATOSIGHT alarm opens or closes an electrical circuit to protect your process or equipment if flow rate is too high or too low. It will ring a bell . . . stop a pump . . . switch a solenoid . . . turn on a light . . . immediately and automatically when flow rate reaches the danger point.

It is made with a transparent, V-ported metering tube, and a metal float which moves up or down in response to flow rate changes. The float has a magnetic extension which trips an external switch to operate the alarm circuit. It responds equally well to flows of liquids or gases. Easily made explosion-proof.

The RATOSIGHT alarm is cast in all metals in sizes from ½" to 2". It is an inexpensive, compact indicator of the true flow rate.

The RATOSIGHT alarm has been rapidly adopted by leaders of process industries and the equipment manufacturers for measuring the flow of coolants, lube oils, and chemical feeds. It has filled their need for a positive, sure-fire flow rate indicator and alarm for diesel engines, air compressors, turbines, filters, furnaces, stills, heaters, reaction vessels, etc.

Write for the interesting details which are given in Bulletin 92.

FISCHER & PORTER CO.
Dept. 9P-8Y Hatboro, Pa.
INSTRUMENTS FOR FLOW RATE MEASUREMENT AND AUTOMATIC FLOW CONTROL

relative humidity between 15 and 95%. It is obvious that under such circumstances perfect air conditioning of the work rooms is of vital importance.

There exist two separate systems, one for the main plant and one for an addition which was built in 1947. Both systems are fully automatic and they both can be set at any desired relative humidity between 55 and 70%.

The two systems work on two different principles. The older one is controlled electrically and consists of six air-conditioning units which work separately but are controlled from a central switchboard which is located in the office of the superintendent. All the six units have separate heaters, coolers, and moisteners.

The new system has only one central air-conditioning unit from which the conditioned fresh air is distributed to the mill departments through air channels.

The waste air is collected in another channel system and pumped back to the central conditioning unit. There, part of it is reconditioned. The system is pneumatically controlled. It works with a tolerance of ±2% of relative humidity and is in every respect more convenient and efficient than the decentralized electrically controlled system.

In order to save as much heat as possible, both systems have an automatic control for the intake of fresh air.

They take in only the amount which is necessary to bring the relative humidity down to the desired point. The rest of the air required by the system consists of reconditioned air. Through this recirculation of air, valuable heat can be saved.

SOCIAL WELFARE. The plant is surrounded by a beautiful garden where flowers, lawns, and trees form a refreshing contrast to work areas.

A canteen, styled like a mountain-resort restaurant, serves very reasonably priced meals for those who do not wish to bring their food with them from home. The dinners are cooked right before the eyes of the employees. Only a glass separation is between the canteen and the kitchen, which is equipped with an all-electric installation. Although at least one or two wickets to the kitchen are open all the time, there is no odor of cooking from the kitchen. The air conditioning keeps the canteen under higher air pressure than the kitchen.

Tiled bathrooms and showers and spacious dressing rooms complete the part of the plant which is designed for the well-being of personnel.

Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N.Y. June, 1949

Avisco Operates Complete Development Plant to Improve Rayon Staple

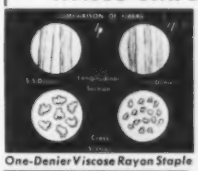
As part of its broad program of research, American Viscose Corporation operates a Staple Development plant at Nitro, West Virginia. Its dual purpose is to serve as a proving ground for the practical development of manufacturing methods as well as to develop new products.

In performing experimental work Staple Development can duplicate both laboratory and plant processes. Because virtually every part of the rayon staple process can be altered at will, it is possible to test production through various stages starting with small batches of spinning solution and gradually working up to commercial scale production. At various points during experiments Staple Development makes use of data which may come from Chemical Research, Textile Research or Fabric Development.

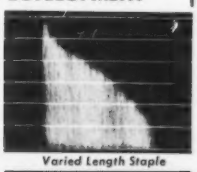
The Staple Development plant makes it possible, within limits, to give the textile industry the type of rayon staple it requires. Trial lots of new products are often made available to customers who may experiment with them on their own machines and make them into garments for wear tests, marketing or style research. Its work has helped make rayon staple the fastest growing product in the rayon industry.

Detailed information on the Avisco Staple Development plant has been compiled in booklet form. Copies are available on request.

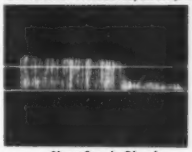
RESULTS OF THE WORK OF AVISCO STAPLE DEVELOPMENT



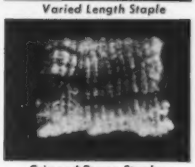
One-Denier Viscose Rayon Staple



Varied Length Staple



Short Staple Blend



Crimped Rayon Staple

Avisco Releases Training Film for Retail Salespeople

"Your Attitude is Showing," an 11-minute color and sound film strip addressed to retail salespeople has just been released by American Viscose Corporation. The film strip dramatizes how salespeople can improve sales by giving positive, concrete answers to the five questions most customers ask about fabrics. Based on a survey by New York University School of Retailing, these questions are: Is it washable? Will it shrink? How will it iron? Will it wear well? Will it soil easily? The film strip is part of a sales training unit including leaflets, sound record, user's guide. The unit is being made available to retailers at cost.

MAKE USE OF *Avisco* 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

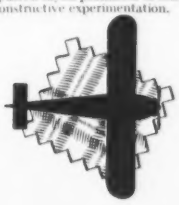
America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

RAYON 20 YEARS AGO

NEW YORK, June, 1929 — The second edition of the "Story of Rayon" published by the Viscose Company is now ready for distribution.

NEW YORK, June, 1929 — The promise of a big demand for artistic and durable fabrics for upholstering airplane interiors has spurred rayon producers to much constructive experimentation.



LONDON, June, 1929—The use of the word "rayon" is progressing. The British paper exclusively devoted to rayon and known as "The Artificial Silk World" has adopted the title of "Rayon Record."

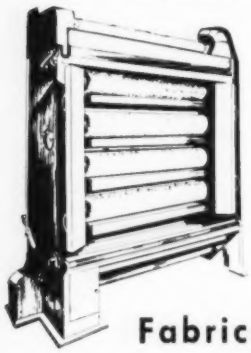
THIS 80 INCH BRUSH IS REALLY MADE UP OF 61,440 INDIVIDUAL BRUSHES

"METLKOR"

(TRADE MARK Reg. Pending)

CYLINDER BRUSHES

for Textile Brushing Machines



. . . give better brushing results because bristle in these brushes is *arranged in tufts*, set in metal, and sealed in with plastic cement.

Each of the thousands of tufts in a Jenkins' "Metlkor" brush *acts as a separate brush*, with an efficient whisking action.

Fabrics are thoroughly *brushed not abraded*

. . . as they may be by unyielding bristle, when set in solid rows. Tufts, because they use the natural resilience of the bristle, are in contact with the fabric longer, in a firm but gentle pressure, effective but not harsh.

FABRICS ARE BETTER BRUSHED AND BRISTLE LASTS LONGER IN JENKINS' TUFT-SET "METLKOR" BRUSHES.

These brushes are supplied by all manufacturers of brushing machines on specification.

JENKINS METLKOR

Send for our catalog of Brushes for Textile Processing.

M. W. JENKINS' SONS, INC.

Specialists in Industrial Brushes since 1877

CEDAR GROVE, ESSEX COUNTY, NEW JERSEY

Mill Humidification

(*Continued from page 105*)

amount of water fed to the rotating disk from the evaporator will determine the humidifying effect of the system. Heat can be added to the recirculating opening of the intake if desired.

Air distribution can be efficiently and economically obtained with this type of system to provide additional effective cooling by controlled air motion in the room and maximum uniformity of conditions.

Probably the most important economic advantage of the unit system over the central-station system is found in the low operating horsepower and in the fact that no apparatus houses are required to house the conditioning equipment.

Normally, the unit system delivers fine entrained moisture from the centrifugal evaporator, making it unnecessary to supplement with atomizers. For specialized applications, however, saturated air can be delivered from this unit system.

Accurate control of humidity, air motion, and air distribution, and some control of dust through the air-washing effect of the sprays or evaporator, can be obtained with this type of system within the limits of evaporative cooling. In applications in which higher humidities are maintained or low outside wet bulbs exist, evaporative cooling is considered adequate. This type of system has very little control over bacteria or odor beyond the previous types of equipment mentioned.

SYSTEM NO. 5. Complete air conditioning is obtained by systems such as are described in System No. 4 with the addition of refrigeration for cooling and dehumidifying.

Generally, with the central-station type, chilled water is circulated through the sprays from a central refrigeration compressor to maintain a constant web bulb leaving the apparatus. Closer control can be obtained by the more expensive application of cooling coils across the face of the washer.

With the unit system, a cooling coil is mounted on the intake for cooling and dehumidifying. The humidity is controlled separately by the amount of water fed to the centrifugal evaporator. Chilled water is circulated through this coil during the cooling season, and warm water may be circulated through it during the heating season.

Experiments in the control of bacteria by introducing tri-ethylene glycol vapor into the air stream are being carried out by certain large companies. A simple, relatively inexpensive unit

tests like this

To assure uniform brilliancy, a Westinghouse worker in the Fairmont, W. Va. plant gives "Easter egg" test to 100-watt fluorescent lamp. The brilliant radiation of this industrial lamp is measured through a tiny hole in sphere's side by an electric eye.

make Westinghouse Fluorescent Lamps

WORK SO WELL · BURN SO BRIGHT · LAST SO LONG

YOU CAN BE SURE...IF IT'S

Westinghouse

THE NAME YOU KNOW IN *Lamps*

Hard Maple Floor in Rayon Mill—Photograph Courtesy Westinghouse Electric Corporation

resilient

NORTHERN HARD MAPLE for greater efficiency

• Northern Hard Maple is *the* truly resilient flooring for workers' comfort in textile plants. Smooth Northern Hard Maple is a *comfortable* floor—warm and dry. Its resiliency holds off fatigue—cuts down the accidents and mistakes that occur because workers are tired.

A floor of Northern Hard Maple is a *true* floor . . . not a floor covering. Its *long life* and low maintenance cost mean sound investment value. Hard Maple floors create no dust, catch no lint, can be cleaned by brushing alone.

HERE'S FURTHER ECONOMY! MFMA Second Grade Northern Hard Maple gives you the same durability and ease of maintenance as First Grade . . . at *very substantial savings in initial cost.*

The superiority of Northern Hard Maple for textile mill floors has been long established throughout the industry. By specifying **MFMA** Maple you insure receiving all Northern-grown Hard Maple, association-supervised and guaranteed.

See Sweet's

Section 13 g/6, (engineering, 4 j 22) for catalog data. Write us about your maintenance and floor finishing problems.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
Room 392—46 Washington Boulevard
OSHKOSH, WISCONSIN

FLOOR WITH *NORTHERN* HARD MAPLE
BEECH AND BIRCH

for producing this vapor in controlled amounts can be adapted to either type of system. Odor control in the textile industry is relatively unimportant but can be easily effected with the unit system by introducing a deodorizing fluid in the feed water to the centrifugal evaporator, since a relatively large portion of the water fed is evaporated into the air. The systems described under No. 4 can employ these same bacteria and odor-control devices.

APPLICATION. Due to the close tolerances held in the manufacture of various modern high-speed textile machines, much better operating results will be obtained if this machinery can run in an atmosphere of constant temperature and humidity. Maintenance and repair will be lessened; and in addition machines will start more easily after shut-down periods if a week-end control of conditions is maintained.

Along with the higher operating speeds which are possible in a conditioned atmosphere, a marked reduction in the number of machine stoppages can be expected.

Until recently, human comfort has taken a second place to the improvement in quality and efficiency in textile mills which were installing air conditioning. However, thanks to statistics and data now available, a direct relation can be seen between worker comfort and health and worker output.

Worker output begins to fall off rapidly if the temperature is maintained above 80° effective temperature. Effective temperature is based on the dry-bulb temperature of the air, the relative humidity, and velocity of air.

EVAPORATIVE COOLING. The amount of evaporative cooling that can be obtained in a mill is limited by the temperature and humidity of the outside air, conveniently expressed as the wet-bulb temperature, along with the humidity that can be maintained within the conditioned area. Evaporative cooling is based on the principle that 970 Btu's of heat are absorbed for every pound of water evaporated in the air. It is the same principle that makes you feel cool if an electric fan blows on your body when it is moist from perspiration.

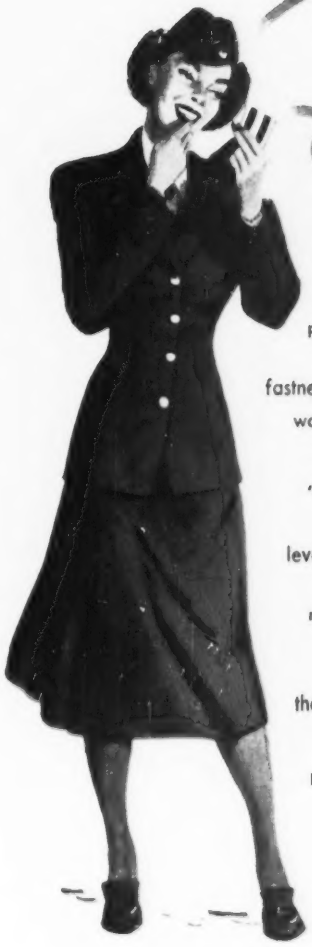
In some localities where the maximum outside wet bulb in the summer does not exceed 70 or 72°, large quantities of moisture can be evaporated by the conditioning system before the humidity desired within the mill is exceeded. If more air is introduced by the air-conditioning system, more water can be evaporated before the humidity in the space rises above the desired limit, and more evaporative cooling is obtained.

The practical limits generally ac-

PONSOL

REG. U. S. PAT. OFF.

Olive T Paste



An anthraquinone vat dye for cotton and viscose-process rayon that produces neutral olive shades with excellent fastness to light. Good fastness to crocking, moist pressing, water spotting, laundering with chlorine, washing and dry cleaning.

"Ponsol" Olive T Paste reduces readily, penetrates thoroughly, levels well, has a good exhaust. It is applied by the usual vat dyeing methods. Especially recommended for military fabrics, industrial uniforms and other materials that may encounter severe treatment during wear and washing.

For additional information about this or any other Du Pont dye, write our Technical Staff.

E. I. du Pont de Nemours & Co. (Inc.), Dyestuffs Div., Wilmington 98, Del.

Du Pont Dyestuffs

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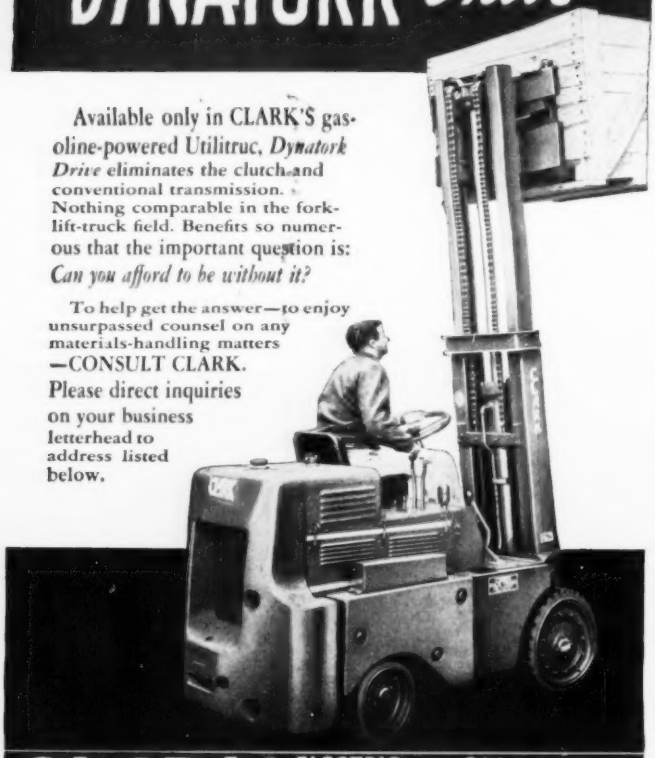
Available only in CLARK'S gasoline-powered Utilitruc, *Dynatork Drive* eliminates the clutch and conventional transmission. Nothing comparable in the fork-lift-truck field. Benefits so numerous that the important question is: *Can you afford to be without it?*

To help get the answer—to enjoy unsurpassed counsel on any materials-handling matters —CONSULT CLARK. Please direct inquiries on your business letterhead to address listed below.



CLARK ELECTRIC AND GAS POWERED FORK TRUCKS AND INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIV., CLARK EQUIPMENT COMPANY BATTLE CREEK 27, MICH.
REPRESENTATIVES IN PRINCIPAL CITIES THROUGHOUT THE WORLD
AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

cepted for maximum evaporative cooling are 17° above the outside wet bulb with an indoor humidity of 55%, 15° with an indoor humidity of 60%, 11° with an indoor humidity of 70%, and 7° with an indoor humidity of 85%.

In many textile processes, such as cotton carding and spinning, a low relative humidity of 50 to 55% is all that can be maintained without affecting the work adversely. Unfortunately, most of the larger textile centers are located in areas that do not have the low maximum outside wet-bulb temperature of 72°, but have temperatures that may reach as high as 78 or 80°. Under these conditions, the maximum indoor temperature may reach as high as 95 or 97° when 55% relative humidity is maintained in the room. If the humidity cannot be increased within the room, the only alternative to lower the effective temperature is to employ controlled air motion which is easily effected by the self-contained-unit system described in No. 4, or to resort to refrigeration as is described in No. 5.

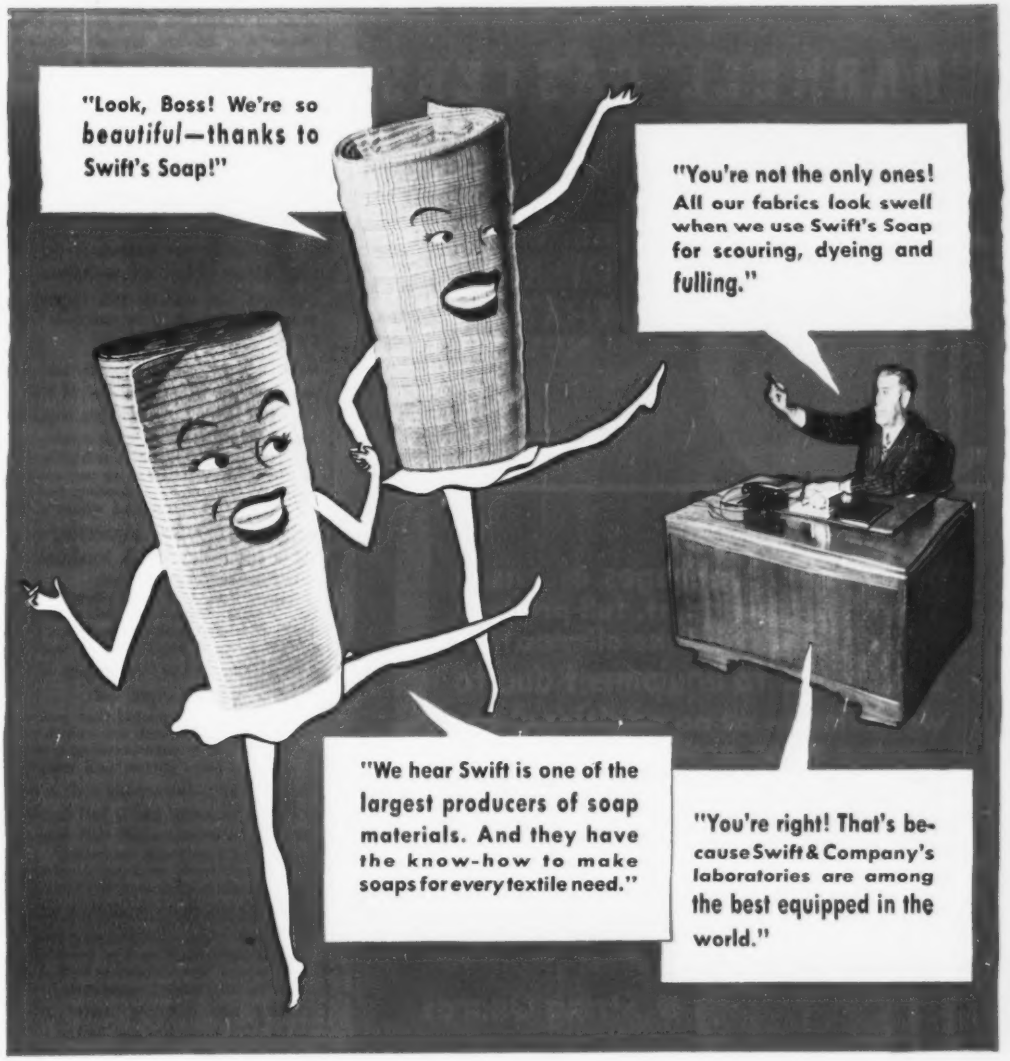
STUDIES CHARTED. A careful study was made of the wet-bulb temperatures existing in the eastern part of North Carolina. The effective temperatures possible from evaporative cooling in a room where 55% relative humidity is maintained were plotted on a chart.

It may be seen from the chart that there were 82 days out of the year when the effective temperature could not be maintained below 80° with diffused circulation of air in the room.

In this instance, the air was distributed from both sides of the conditioning duct through grilles or outlets, and the system did not take advantage of controlled air motion in the room. By the use of controlled air motion, by which the air was distributed from the ducts to set up a horizontal circulation around the room, there were only 68 days that it was impossible to maintain temperatures better than 80° effective. Actual impairment to the workers' health probably would not be noticed until the effective temperature reached 85° or above.

It was found that with diffused circulation, there were 29 days throughout the year when the temperature could not be maintained below 85° and only 11 days when the temperature could not be maintained below 85° effective with a type of circulation that took advantage of air movement in the room.

It is apparent that there are relatively few days of the year when evaporative cooling cannot maintain effective temperatures below a point that might seriously endanger the health of workers. It is also apparent that


"Look, Boss! We're so beautiful—thanks to Swift's Soap!"
"You're not the only ones! All our fabrics look swell when we use Swift's Soap for scouring, dyeing and fulling."
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if room humidities must be kept low, evaporative cooling cannot maintain conditions at a point where worker efficiency is at a high peak in desirable working conditions.

In those processes in which air movement can be practically employed, there is a decided advantage in the cooling effect and in the uniformity of conditions obtained. In certain processes, an absolute minimum of air movement is desirable; and, in practically every instance in textile applications, when air movement is employed for cooling and improved distribution, it must be carefully engineered and controlled.

MILL RESULTS. It is rapidly becoming evident that the full use of evaporative cooling is a minimum requirement for modern textile air conditioning. It is apparent that it is highly desirable to use controlled air movement with the evaporative cooling system where it is practical and where sufficient experience and engineering data are available to the air conditioning manufacturer or contractor.

One cotton mill in the South using a unit-type evaporative-cooling system reported that efficiency increased 3% and that there was less loom maintenance than before. All regain losses were completely wiped out.

Another mill reported that production went up 4% with the installation of a similar evaporative-cooling system.

A third large cotton mill reported that its evaporative-cooling system paid for itself in a year and a half through production increases and that working conditions were vastly improved.

For optimum working conditions and maximum efficiency, the facts definitely suggest that refrigeration be utilized with the air conditioning system. This is particularly true in those processes where lower relative humidities must be maintained, such as in cotton carding and spinning rooms where 50 to 55% humidity may be the maximum allowable. Even in certain synthetic or worsted plants in which humidities may range as high as 65%, refrigeration can bring a marked increase in efficiency and production through temperature and humidity control.

Specific data on the manner in which refrigeration can pay for itself in textile air conditioning is being compiled. Indications are that aside from worker comfort, the quality of the product will be improved, particularly where certain synthetic fibers are employed. Increased production through less work stoppage and more efficient operators will warrant the investment in refrigeration by mills needing air conditioning in a broad variety of applications.

Learn these Definitions

rayon

A textile fiber made of *regenerated cellulose.* (Example: viscose.)

estron

A textile fiber made of an *ester of cellulose.* (Example: cellulose acetate.)

● These separate and distinct names for the two major types of man-made fibers are recommended by the Committee on Textiles of the American Society for Testing Materials, the membership of which includes many leading manufacturers, distributors, and users of textile products.

Tennessee Eastman will follow the ASTM recommendation and identify its cellulose acetate fibers as *estron*, not rayon.

Tennessee
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SUBSIDIARY OF EASTMAN KODAK COMPANY

KINGSPORT, TENNESSEE

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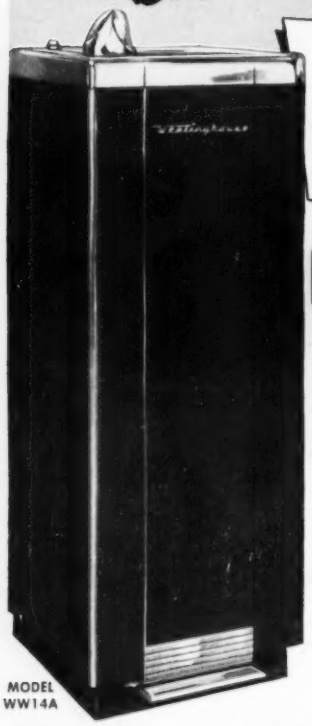
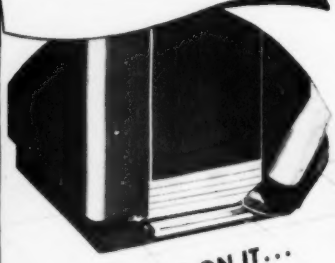
BUY WESTINGHOUSE!



THE WATER COOLER
with the
Foot Pedal Control



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WW14A

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Westinghouse Water Coolers with *water-cooled condensers* are the answer for installations where lint-laden air is prevalent. Water-cooled condensers (instead of air) maintain full refrigeration capacities under all conditions. Standard equipment on the Westinghouse WW14A, WW22 and the special explosion-proof model WWE14A.

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For installations where air-cooled condensers are satisfactory, Westinghouse provides four other models. Everything from a Bottle Cooler to six Pressure Coolers... a capacity and type for every need.

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Washing Systems

(Continued from page 110)

used in washers will vary with the type of washers, type of goods, and pounds of cloth per minute being processed. Tight-strand washers are in operation with the washer after the caustic-soda J-box running a controlled volume of 125 gal. of water per minute at 140°F. for 90 lb. of cloth per minute. Slack washers and open-width washers using hot water at temperatures varying with the cloth requirements will use 35 to 60 gal. per min., generally with the poundage processed being lower.

While this article has been concerned with hot water in the different types of washing machines, it should be noted that some ranges do employ cold water; the volume of water, amount of washing equipment, and cloth processed are factors involved in these cases.

Although considerable development has already been noted in the various component parts of continuous bleaching, particularly the washing and chemical-feed operations discussed here, it is to be expected that other progressive improvements will be observed as continuous bleaching is increasingly adopted.

Employee Services

(Continued from page 107)

country [T. W., June, '48, p. 135]. More than 1400 patients have been treated for various foot disorders. So outstanding is this clinic that the National Foot Health Council awarded the mill a Citation of Merit, presented by the governor of the State at elaborate ceremonies.

The foot clinic was conceived by Mr. Stone and has received such national recognition that many industrial firms have sent representatives to study its services. Inquiries concerning the foot clinic have come from as far off as from South Africa.

NURSERY. Probably the greatest assistance to employees is the nursery and kindergarten. It is in charge of Miss Mary Rivers, who has been associated with the company in this capacity for more than 25 years, assisted by two matrons and several maids. Available to the nursery are the services of a physician, a dentist, and graduate nurses.

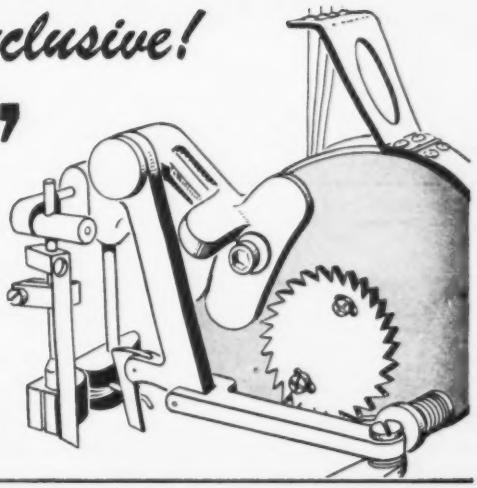
The nursery is used by boys from four months to ten years old and girls from four months to twelve years old. They received expert care and are provided meals and facilities for study, recreation, and rest. The cost of food is 10¢ a day per child.

A new service has been started in

Now... Supreme Exclusive!

"NO-WASTE" KNITTING

OF VARIABLE STRIPES AND PLAIDS



NEW SYNCHRONIZED CUTTERS* ELIMINATE ALL WASTE WHEN CHANGING COLORS

Model SA-ROF. Modern in design, proven in use, backed by experience.

This revolutionary Supreme development gives chest stripes, blazers and plaids a sales appeal that was never before possible. It saves yarn, dollars and time. It means clean-as-a-whistle fabrics that are easier to finish because the cloth does not have to be reversed. Easier to sell too; the buyer gets all cloth for his money . . . there's no braid of waste added into the cloth poundage.

An exclusive Supreme feature, the new waste-eliminating cutters are available on the Model SA Automatic Variable Striper and the Model SA-ROF Variable Stripe and Plaid Knitter.

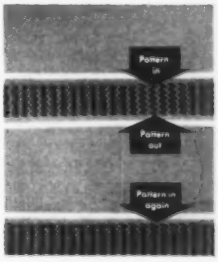
Here's how it works...

Each striping feed is equipped with one of these simple cutters. At the correct instant, the yarn that is going out of action is clipped off close to the narrow seam. It is then held in a unique clamping device along with the other yarns, each ready to go back into action the moment the pattern calls for it. No waste yarns, no floating yarns, no special and intricate stop motions.

***Patent Pending**

SK-120

Another New Development



THE AUTOMATIC PATTERN PLACER

Available on the Model SA-ROF, this new device lets you place a pattern wherever you want in plain or striped jersey cloth. You can engage or disengage the pattern at will, separating the pattern with plain or variable striped fabric. The result? Practically any combination of patterned and plain or striped jersey.

Write today for the free booklet "Variable Stripes and Plaids Pay" and free cloth samples that show other unique features and wide knitting ability of the Models SA and SA-ROF.

SUPREME

KNITTING MACHINE CO., INC.

107 JOHNSON AVE. BROOKLYN 6, NEW YORK, N. Y.

JUNE • 1949

CARD CLOTHING NEWS and views

Written monthly by E. A. Snape, Jr., President **Benjamin Booth Company** Phila., Pa.

WHY The Wire Holds Pitch In *STRIP-O-MATIC* Card Clothing

This hand is holding one of the wires that go into **STRIP-O-MATIC** Card Clothing. A comparatively simple-looking piece of wire—but what a story there is behind it!

This wire, inserted in the foundation, is straight and shorter than the wire in conventional Card Clothing, and is set with a greater amount of uninterrupted open space. This permits free movement of the stock in and around the teeth, and hence it will not be trapped. Thus the Fancy can raise all fibres to be doffed.

The foundation is so designed to cushion the effect of blows to the wire, blows which normally would set the wire back. Add to this the rugged character of the wire, and its heavy gauge longitudinally, and you see why it cannot readily be bent.

Why all this fuss over a single piece of wire? We at Booth have painstakingly designed **STRIP-O-MATIC** and *know* that the wire is an important factor. For instance, the very setting of the wire is one reason for less fibre breakage. Fibres that are entwined around numerous teeth closely

set are more apt to be damaged than they would be in the open spacing of the teeth in **STRIP-O-MATIC**

Importantly, while there are fewer points per square inch, there are just as many or more points transversely, which, after all, are the points that count.

Because of the wire holding pitch, because of the foundation, because of the plastic face, you will find that **STRIP-O-MATIC** will run with a minimum of stripping.

You *know* how important that is.

We cordially invite you to write today for details of this card clothing which, truly, is one you have been seeking for years.

Thanks,

E. A. Snape Jr.

President,

Benjamin Booth Company
Allegheny & Janney Sts.
Philadelphia, Pa.

We have received reports that **STRIP-O-MATIC** functions properly on nylon and nylon waste.

Repeat Orders from some of our original carpet installations prove complete satisfaction with **STRIP-O-MATIC**

recent months with the establishment of a Junior Achievement Chapter. The purpose of the chapter is to encourage youngsters to make things. A building and facilities for production of several articles are provided. After a try at making rag dolls, bean bags, aprons, hot pads, and several other articles, the children are now producing towels.

The mill recreation program includes vacations with pay for those with one or more years of service. In addition, the mill sponsors three baseball teams and maintains a playing field with a reinforced-steel grandstand seating over 1200 spectators. Playground and other facilities are provided employees and members of their families.

Fulton Bag, as a large city mill, is a community in itself. Many of the services it provides its employees are to meet the needs of these conditions. Housing is not overlooked. The village provides accommodations for 375 families. At present, an improvement program that includes modernization and beautification is under way.

Punched-Card System

(*Continued from page 115*)

make-up is computed automatically and punched in the card as it is processed through the multiplying punch machine.

The earning summary card is a summary of the labor-distribution cards by employee. It provides for employee's name, number, department, social security number, sex, total hours, withholding-tax exemption class, straight-time amount, and gross pay. Gross pay is also shown for the quarter ending this date and the year to date, as well as for the current week. The above information is automatically punched in the earnings-summary card after collating name cards and the labor-distribution cards on the electric collator.

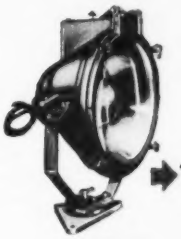
The earnings-summary card is also used to compute and record deductions required by law. These deductions are automatically punched by use of the multiplying punch machine in the case of percentage deductions such as old-age benefits; or by use of a master deck in the case of withholding tax which, of course, is dependent on earnings and exemptions of the employee. This card also provides for withholding tax to date to the previous week. In a subsequent operation, this amount is added to the withholding tax for the current week, and the withholding tax to date is printed. These deductions for the current week are automatically deducted from gross pay to get the net pay after taxes.

In order to complete the payroll and

CROUSE-HINDS complete line of *High-Efficiency* FLOODLIGHTS

fill a wide variety of industrial needs

They can help solve YOUR lighting problems



Type LCE-1120 Heavy Duty Floodlight

This powerful 1500-watt floodlight greatly reduces the installation cost, lighting load and maintenance cost where large areas are to be lighted. The cast aluminum alloy housing is corrosion-resisting, and weatherproof. The 20-inch polished *Alzak reflector can be furnished for either a narrow or wide beam. The narrow beam is ideal for very long range projection. Five types of lenses can be furnished. Horizontal and vertical stops facilitate relamping.

Type ADE-16 Heavy Duty Floodlight

This sturdy cast aluminum alloy, 1000-watt floodlight will give you all the advantages of type LCE-1120 but in a smaller size — with a 16-inch polished Alzak reflector. Frequently it will cost much less to project light a considerable distance with Crouse-Hinds long range floodlights than to run cable and install local lighting. There are also indoor locations in large buildings where floodlights are the most economical and satisfactory source of light.

Type MUA Alumalux Floodlight

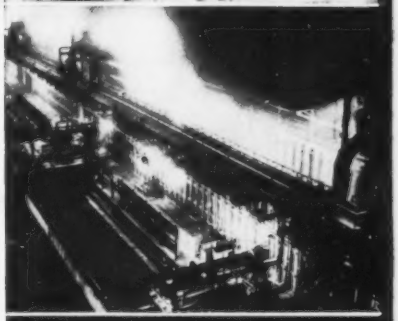
Industrial yards and auto parking lots are most efficiently lighted by the use of floodlights. Crouse-Hinds Type MUA Alumalux 1500-Watt Floodlight provides efficient lighting at minimum first cost. It is widely used for general floodlighting and is ideal for the lighting of athletic fields and playgrounds.

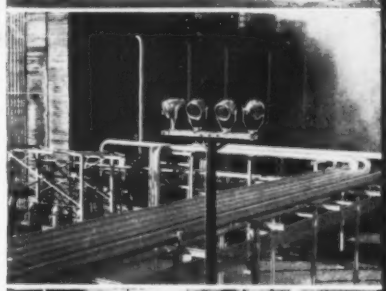
Type RLEE Explosion-Proof Floodlight

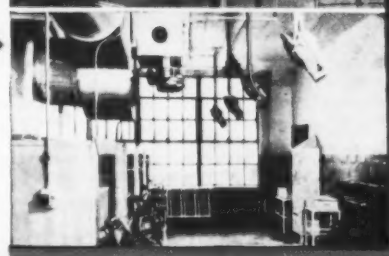
This heavy duty explosion-proof and weatherproof 500-watt floodlight has a cast aluminum alloy housing. It is designed for service in locations that are hazardous because of the presence of explosive atmospheres containing gasoline, naptha, petroleum, benzol, alcohols, acetone, lacquer solvent vapors, and natural gas. It can be furnished with either a wide or narrow beam 13-inch Alzak aluminum reflector.

Type RCDE-8 Explosion-Proof Floodlight

This is an explosion-proof floodlight in a 200-watt size, with an 8-inch reflector, either wide or narrow beam. It can be furnished for suspension mounting, standard base mounting, or as a portable floodlight with a handle and wheel base.







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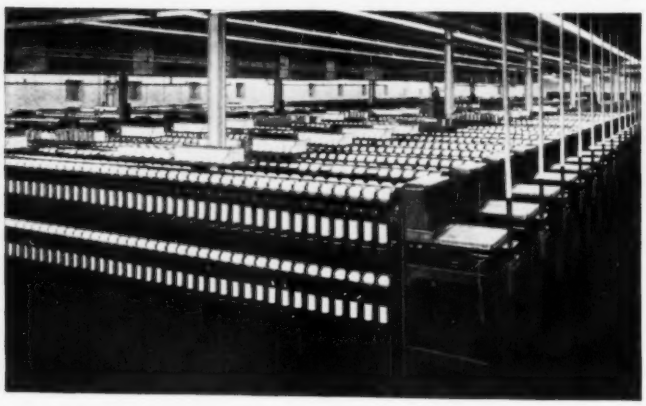

● It's a brand new, precision machine designed to eliminate the present-day headaches of the nylon throwster—produces perfectly built tapered packages (8-oz. to 12-oz.) at new, higher spindle speeds than conventional twisters! Wire, phone or write for complete information!

MODERN THROWING EQUIPMENT FOR PROFITABLE PRODUCTION

● Cuts Operating Costs ● Boosts Production & Quality ● Reduces Maintenance

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U.S. TEXTILE MACHINE CO.

600 Gilligan St.—Scranton 8, Pa., U.S.A.

secure the net pay due an employee, deduction cards reflecting the amount of local deductions are collated with each employee's earnings-summary card. The alphabetical accounting machine then deducts these local amounts from the net pay after taxes as shown on the earnings-summary card. This information is printed on the payroll sheet in the accounting machine, and the net amount of pay is automatically computed and printed.

ENVELOPE PRINTED. By the same procedure, an employee's payroll envelope with earnings statement attached, is printed and made ready for use. These envelopes are in continuous form and when completed carry the employee's name, payroll number, social security number, earnings for the pay period and for the year to date, hours worked, and net amount of pay after all deductions are made. The deductions are listed. Simultaneous with the printing of the payroll envelope, a payroll-receipt card is punched with the same information, then run through the interpreter which prints them just as the envelope is printed. They are used to secure the employee's receipt when the payroll envelope is delivered.

When the payroll register is printed on the accounting machine, a ditto process is used which permits the transferring of each employee's earnings, (each line on the payroll register) to an employee's earnings-record card. This is accomplished by running the payroll sheets through a transfer posting machine in which the employee's card is inserted. This gives annual record of each employee's earnings.

In addition to payroll and informational activities, the machines are used to process invoices payable and to issue checks for these invoices. This provides faster distribution of disbursements at the end of each accounting period. It also eliminates check writing by typewriter, as well as listing by typewriter the invoices paid. All necessary information is printed directly on the check.

COTTON-INVENTORY RECORDS. Another use of the machines is in connection with the raw-cotton inventory records. Formerly, detailed bale records of raw cotton as received at Trion were kept in both the accounting and cotton departments. This record is now kept only in the tabulating department. It provides a perpetual inventory by bales through a simple machine operation. A card is punched for each bale received. As bales are opened, the corresponding punched card is manually pulled. The machines do the rest.

With these machines, Trion main-

how synergistic action of SANTOMERSE No. 1 and TSPP pays off after desizing

When you send goods to the kier after desizing, synergistic action of Santomerse No. 1 and Monsanto Tetrasodium Pyrophosphate gives you a bonus of extra detergency and extra economy. Synergistic action is the cooperation of the two Monsanto products to produce higher detergency than the average of the two used separately . . . higher than either used alone.

This synergism is effective in removing minerals, natural waxes and foreign matter and holding particles in suspension so they cannot settle back into fabrics. Complete rinsing is easy. Goods come out in perfect condition for succeeding processes.

You get economy in two ways. First, you save in price because TSPP costs even less than economical Santomerse No. 1, therefore synergistic action gives you more detergency at lower cost. Second, you'll find economy in the small amounts that you'll use. For example, excellent results in the kier come from using one-fourth of one per cent of Santomerse No. 1, one-fourth of one per cent of TSPP and 4 per cent of caustic soda (based on weight of goods).

For information and quotations on Santomerse No. 1 and TSPP, contact the nearest Monsanto Sales Office, mail the coupon or write: MONSANTO CHEMICAL COMPANY, Desk F, Phosphate Division, 1780 South Second Street, St. Louis 4, Missouri.

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.

MONSANTO CHEMICALS

MONSANTO CHEMICAL COMPANY
Desk F, Phosphate Division
1780 South Second Street, St. Louis 4, Missouri

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Company _____

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- Santomerse No. 3
- Santomerse No. 3 (Paste)
- Santomerse 30X
- Santomerse D
- Santomerse S
- Sterox® CD
- Sterox SE
- Sterox SK
- Sterox 5
- Sterox 6

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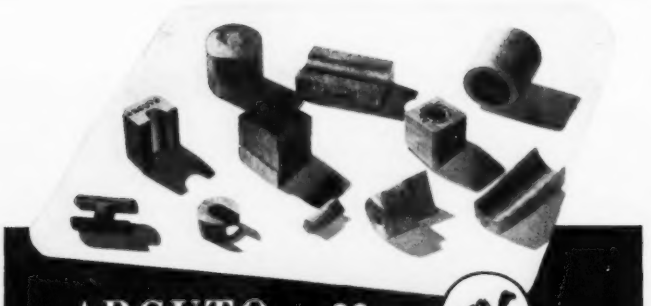

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Since 1890 Arguto has specialized in the design and manufacture of the BEST self-lubricating bearings money can buy! Universally used in thousands of different applications, Arguto Oilless Bearings give clean, long-lasting performance with no maintenance whatsoever.

Made of selected choice wood impregnated with a secretly formulated oil and wax compound that assures positive lubrication for the life of the bearing, Arguto Oilless Bearings are still in use after twenty years of continuous operation.

We make this unqualified statement—"Arguto Oilless Bearings will outlast any other self-lubricating bearing on the market."

We carry a complete stock of standard bearings. However, if you have a special bearing problem, our engineering department is ready to assist you and can quickly fill your needs to specifications.

Write or wire today for complete information.

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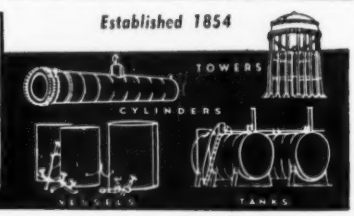
PHILADELPHIA 44, PENNA.

COLE
PRESSURE VESSELS FOR TEXTILE LIQUIDS

● Cole builds vessels to your specifications — dye-vats, kiers, starch-kettles, acid tanks, jib boxes, or other processing vessels for the finishing and dyeing industry . . . in stainless steel, nickel-clad steel, or of standard steel lined with monel metal. Our long experience in the design and fabrication of vessels for the textile industry may be of help to you. Write for latest Cole catalog—"Tank Talk."

R. D. COLE
MANUFACTURING CO.
NEWNAN, GA.

Established 1854



tains detailed production, inventory, and sales records of its glove factory. Interdepartmental shipments are also recorded. From time to time new procedures are applied if it appears that some benefit or saving will result.

In the opinion of the management at Trion, availability of information is of great importance; and this is among the principal advantages to be derived from the use of this system. Without the punched-card system, many hours would be spent in accumulating, sorting, searching, and recapping. Certainly there is a big saving in manhours in the preparation of a payroll for approximately 3,900 employees. This savings in manhours is to a large extent offset by rental costs. Considerable thought must be given to percentage of machine time utilized and value of immediate availability of information, in planning installations. It is believed, however, that a set of machines can be worked out to meet the special requirements of almost any plant with several hundred employees.

Terry Borders

(Continued from page 113)

represents four warp threads (two pile and two ground). The full design extended on point paper is on 80 ends (40 pile and 40 ground) alternating one pile and one ground, and on 64 picks (32 fine and 32 ratine) alternating two fine picks and two ratine picks.

The extension of the design shown in Fig. 4 is for the whole 80 warp threads but only 32 picks, or half the full design. For drafting the warp threads, eight heddles are needed. The lifting plan for the heddles is given in Fig. 5.

LIFTING PLAN. The following system of placing the lifting plan on squared paper is simple and is especially useful when the design is of larger proportions, which is usually the case in this class of ornamentation:

1. Mark the paper across the top and show pile and ground heddles.
2. Mark the paper F.F. and R.R. down the full number of picks required, which represent two picks fine and two picks ratine, respectively.
3. Mark the lifting of the pile heddles from the first to the last pick, by circles. Note that each pile heddle is up for two picks and down for two picks, that each pile heddle lifts alternately to the other. The two picks embrace one fine and one ratine.
4. On all fine picks, mark plain weave for all ground heddles. This will leave blank spaces on all ground threads when the ratine filling is to be used.
5. From the key shown at the left

NEW
STAINLESS STEEL HERRINGBONE HUMP REEL

Eliminate Re-Dyes

Hunter's revolutionary new herringbone hump reel (patent applied for) has proved itself superior on both the new and old Hunter piece dye kettles as well as those of other manufacture — proved itself on everything from 7 oz. knit goods to 32 oz. Meltons. Universally good results have been obtained on all woolens and worsteds. The unique herringbone design effectively opens all types of cloth; it eliminates the chance of streaks and kettle cracks caused by goods running in one fold; it eliminates the channeling which occurs in some hump reels, and also slip and chafe marks. The new Hunter reel is made in any diameter required and may be supplied in elliptical form for rayon piece goods. Further information is yours for the asking.

BUILT BY HUNTER — JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS, MASS. — IT'S DEPENDABLE

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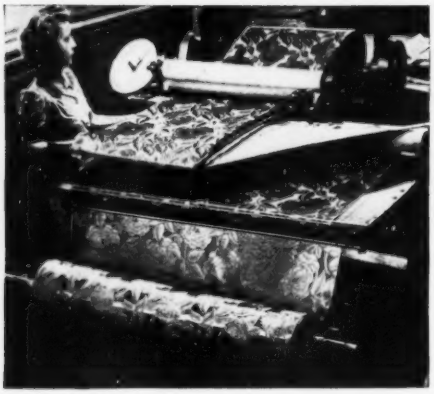
Hunter

JAMES HUNTER MACHINE CO., NORTH ADAMS, MASS. FOUNDED 1847.



Photograph courtesy Verney Mills

Doubling and Winding Machine
FOR WOVEN COTTON GOODS AND RAYONS

Doubles cloth neatly and evenly lengthwise so as to bring the selvages together, and at the same time measure it and wind it in a package for the market. Can be fitted to wind the doubled goods on flat cardboards, as shown, or on round paper tubes. *Ask us more about it!*

Curtis & Marble
MACHINE COMPANY
WORCESTER, MASSACHUSETTS

Sterling
Ring Travelers

CUSTOM-MADE

You wouldn't wear the same clothes if you lost or gained a great deal of weight.
Why use the same Traveler when your rings become worn or are replaced with new ones?

USE WELL FITTED TRAVELERS

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H. B. CABANISS, Box 188, Monroe, N. C.

STERLING RING TRAVELER CO.
FALL RIVER, MASS.

of the lifting plan, fill in the weave for the ground threads on ratine picks. The key is taken from the original sketch Fig. 3. Each portion of this sketch needs two ground heddles. Reference to design Fig. 4 shows need for six ground heddles. Fill in if ratine is to show underneath; leave blank if ratine is to show on the face.

As the pattern is on 64 picks and 64 will not divide by six, it will be necessary to add two extra picks to the design. These are shown as two plain picks of the fine yarn. All weaves used on three-pick terry towel looms must be divisible by six or the design will be "off pick" when returning to the terry weave. It will also be necessary to "cram the picks" in a weave of this description. All picks are beaten up separately.

New Era Spindle

(*Continued from page 137*)

necessity of using a bolster as in conventional spindles where a small shaft rests in the bolster and a heavy blade extends above to carry the yarn package.

REDUCED VIBRATION. Instead of resting in a bolster, the spindle is fastened to the spindle rail by means of two hexagonal nuts pressing against rubber washers. There is one nut and washer on each side of the spindle rail. A torque wrench is used to bring these nuts to the correct pressure against the washers. Correct tension is the main factor in the elimination of vibration.

Greenwood Mills does not have to bother with lubrication of spindles. The new spindles are delivered by Saco-Lowell Shops with the lubricant packed into the space within the tube which covers the spindle blade. The lubricant circulates through both sets of ball bearings within the tube and cannot escape at the bottom. Whenever it is necessary to relubricate the New Era Spindle, this is done by the service department maintained by Saco-Lowell Shops.

After a New Era spindle has been properly installed on a frame, the maintenance is reported to be negligible, due to the unique construction. The weekly, bi-monthly, monthly, or semi-annual oilings necessary on conventional spindles are eliminated. There is no chance for any lubricant to be dropped on the yarn by a careless oiler. About the only maintenance required is plumbing once a year and replacement of a faulty spindle on rare occasions.

Plumbing is made much simpler by securing the spindle blade to the spindle rail. This makes it much

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30/2	36/2	40/2
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COMBED PEELER YARNS

GASSED OR UNGASSED

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The Quality of Boger and Crawford knitting yarn is guaranteed — the highest tribute we can pay it.
Signed . . . . . .

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- Eave heights of 12 to 20 feet
- Lengths as desired in 20-foot increments
- Wide choice of standard alternates, optional features, and collateral materials

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Both DRUMMOND Soap and Flakes have the advantage of high body and low alkali content . . . an advantage that instantly leaves fabrics clean with a downier feel, brighter color and whiter white.

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Easier—quicker-sudsing DRUMMOND—that's the answer to your cleaning problems.

Write today for your ample-size sample of DRUMMOND Soap—just ask for Flakes or Solid.

TEXTILE OILS AND SPECIALTIES

Standard Soap Co. of Camden

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CAMDEN, N. J.

James A. Greer, Southern Manager
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easier to keep the blade within the center of the ring. The job of plumbing is reduced from one requiring outstanding skill to a simple operation. Section men at Greenwood Mills plumb the New Era spindle once a year with the special tools provided. About 1 min. is required to plumb each spindle.

POWER CONSUMPTION. Although not measured by Greenwood Mills, power consumption for the New Era spindle is estimated by the manufacturer to range from 25 to 30% of power required for conventional spindles. Any other textile enterprise using the spindle can make an accurate check on this by use of an ampere meter.

The new spindles are driven by a tape and have a flexible speed range that will be adaptable to the slower revolutions necessary for the coarsest counts to the highest speeds required for the finest counts of yarns.

The tape life is lengthened in two ways. The fact that no oil gets on a tape from the New Era spindle lengthens the running time before replacement. The position of pull is on the lower bearing of the spindle, and this also increases the life of the tape.

One highly noticeable feature around the frames with new spindles in Greenwood Mills is the absence of oil on the floor under and around the machines. There is no oil on the spindle rails. This provides less clinging means for dust, fly, etc.

A summary of opinion among officials of Greenwood Mills is that the cost of lubrication alone saved on the spindle installation for even a three-year running period without relubrication will pay for the entire purchase price of the spindles.

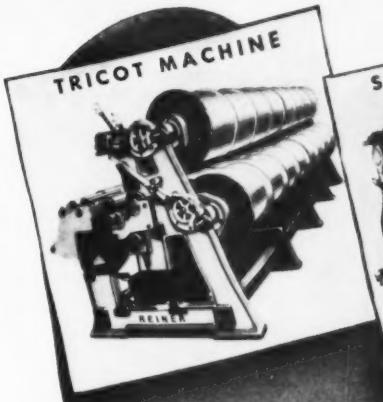
STA Carding Problems

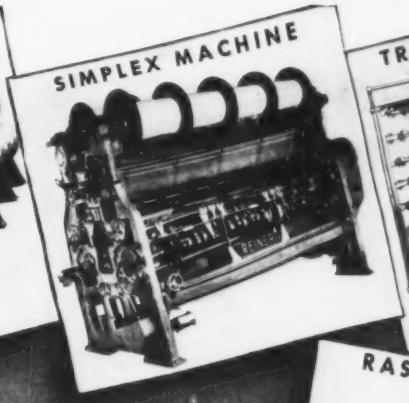
(*Continued from page 129*)

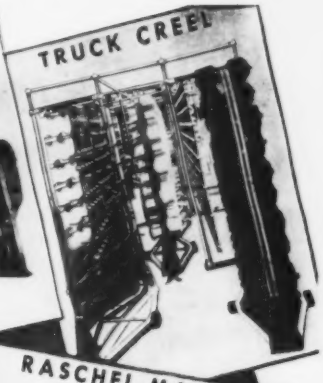
creased from 13.5 to 16.5 lb. The full length of sliver in the can was tested on the sliver tester. There was no decrease in sliver evenness.

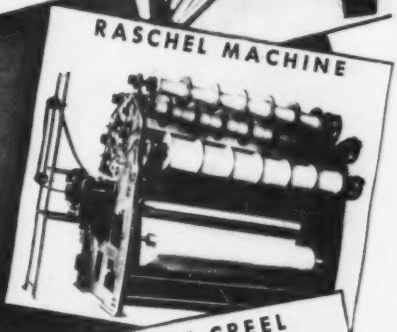
MAGAZINE FEEDING. Savings in waste and sliver variation were obtained by one mill by magazine-feeding of sliver cans at the lap winder. Card hands exposed the tail end of sliver when starting an empty can. Tails dangled from the top of the can about 18 in. The mill stated that can should be free of oil and that comb boxes should be spaced so that they do not disturb the tail of the sliver.

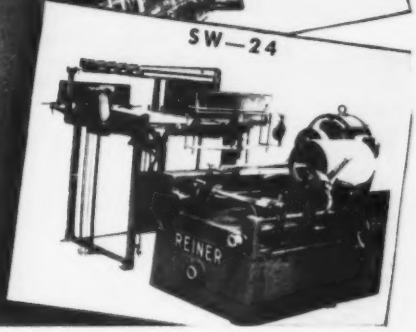
Prior to the magazine method, the mill required lap-winder operators to











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MILTON NYLON & RUBBER TRICOT BEAM

• FORGED HEADS
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Tested and proven under actual operating conditions, here is Milton's forged head beam designed especially to withstand extreme pressures encountered when warping tremendous yardages of monofilament; fine denier, low turn nylon; and rubber yarns! Heat-treated, aluminum alloy heads and barrels permanently joined with continuous heliarc welds. Write for complete information!

MILTON LIGHT METAL BEAMS are the result of years of close collaboration with mill production men . . .

• PERMANENT MOLD HEAD TRICOT BEAMS

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DESIGNERS — ENGINEERS — MANUFACTURERS
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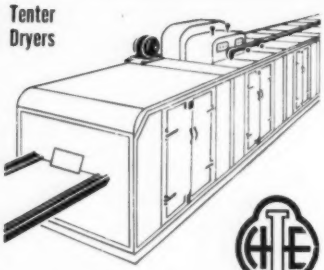
Tenter Dryers

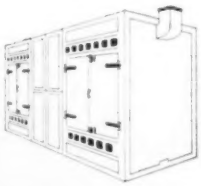


"For Over A Decade The Symbol of Service"

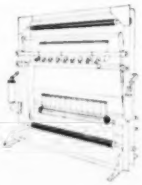
The Advantages of Cloth Drying in Direct-Fired Machines

Direct-firing, with heat application from the fuel used, assures more immediate, more uniform, and more efficient drying or curing, and permits the use of equipment that not only is less elaborate and bulky, but that costs far less.

Direct-firing utilizes all the heat value present in the fuel used and permits the immediate controlling of temperatures within one or two degrees of desired setting. Machines are small and self contained with very wide temperature ranges which means greater savings.



Cloth Dryers



Singeing Machines

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Textile Drying, Curing and Singeing Equipment
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pinch off sliver ends to the same lengths as they were mounted at the machine. This excessive splicing caused waste that was said to be greatly reduced by the newer magazine-creel method.

Static electricity on cut-staple acetate and other synthetics was reduced by the use of double trumpets on drawing frame coilers at one large North Carolina mill. Cold-morning startups were said to be easier. Both trumpets were of the same size. The first was set approximately ¼ in. higher than the second. This setting increased the condensing of the fibers. The method was said to be effective on 50-50 blends and unnecessary on all-cotton stocks.

Temple Marks

(Continued from page 135)

Generally, temple marks will appear on only one side of the weave. This test is not conclusive, however, as there are times when both temples may be at fault.

If defects like temple marks appear on both sides of the cloth after a change of filling yarns at a cut-off, other looms weaving the new filling should be checked for similar defects.

If a number of looms on the same filling yarn are giving identical defects and trouble, no amount of loomfixing will overcome the trouble. If the yarn can be changed to one of similar denier but with a little twist to prevent ballooning filaments, the trouble may be corrected. This rule not only applies to temple-mark effects, but it is also applicable to rough cloth and other similar imperfections.

If the same filling yarn is used on different weaves, such as tabby and satin, different defects may show up. In the tabby, the defect may show as dull-filling streaks or dead picks and temple marks. On the satin, the yarn may give a pronounced rough-cloth appearance.

The logical explanation seems to be the weave structure. On the tabby, the filling yarn is covered more fully than on the satin. Filaments that appear to balloon open more than others and are forced into the beat-up and covered more completely by the warp yarn. On the satin weave, the ballooning filaments tend to shove outward through the less coverage of the back and cause a pimply appearance. The result is the rough-cloth defect.

TRUE TEMPLE MARKS. True temple-mark defects usually show heavy marks of a varying number of picks alternating with lighter marks of a varying number of picks. Such a defect is serious and may be caused by one of several temple conditions: incorrectly

They're both right! For today, most textilemen know that the use of a soap or a synthetic in wet processing operations depends on the nature of the operation, the properties of the fiber, etc. Some operations call for high wetting and penetrating action—others for high detergency or emulsifying power. That's why certain textile processes call for soaps, others for synthetics . . . and Armour makes the best of both. For instance . . .

You need a soap—

In fulling wool—a soap with good lubricant properties like Armour's FLINT CHIPS.

In finishing cottons—a low titered soap, free from rancidity like Armour's CERTIFIED or TEXSCOUR.

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You need a synthetic—

In dyeing cottons and wool—a synthetic that has stability to acid and dye-suspending action like Armour's REGAL or ENERGETIC.

In scouring water repellent or resin treated fabrics—a synthetic with good detergent action like Armour's TRIUMPH or REGAL.

In desizing cottons—a synthetic with rapid penetration and wetting action like REGAL.

You can use either a soap or synthetic—

In kierboiling cottons—and in boil-off—a soap or synthetic with rapid penetration and/or soil removing and suspending action like CERTIFIED or FLINT CHIPS—REGAL or ENERGETIC DETERGENTS.

In scouring raw wool—a soap or synthetic with good detergent properties, easy solubility and rinsability like RE-NU and TEXSCOUR or TRIUMPH and REGAL DETERGENTS.

Armour has a quality soap—a quality synthetic for your every textile use.

WRITE TODAY!

Please send me Armour's handy reference chart to help in selecting the right soap or synthetic for each textile processing operation.

Name..... *Title*.....

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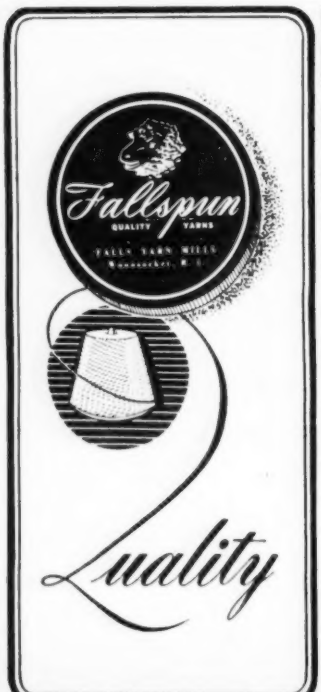

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adjusted temples, sticking temple rolls, or rolls clogged with waste.

On the older-style temples, few fixers took the time to make a perfect temple adjustment. One such temple is the well-known Dutcher temple, used in many mills.

When one of these older-type temples requires attention, the temple stand should be removed from the breast beam and adjustments made at the fixer's bench. With new rolls in place, the head should be replaced and the head screw tightened. A sharp tool should be inserted between the head and bottom against each roll, and the rolls tested for movement. Each roll must work freely. If the rolls are tight, the head will require further adjustment until roll movement is satisfactory.

It may be necessary to file metal from either the head or bottom where the two are connected. The opening between the two segments should approximate 3/32 in. from the base to the open end. Filing from the head will lessen the opening, if the cut is made evenly. If the cut is made on a slight angle downward towards the opening end, the end will set farther apart; if the angle of the cut is upward towards the opening end, the head will pinch closer at the end. If the cut is made on the base, the results run opposite when made on a slight angle.

TEMPLE-HEAD ADJUSTMENT. On later-type temples, the head is also attached to the head segment by additional studs so that the roll segments can be lowered into any desired proximity to the lower base section. If rolls are too tight and cause temple marks by pinching, the head segment can be raised higher without the temple being removed. On some temples, certain adjustments can be made by small adjusting screws that permit the temple head to be set to certain desired positions.

Good temple rolls must be used. Many temple marks are caused by a fixer trying to pinch the head closer, so that the cloth is held out along the sides to prevent edges from breaking out.

On many weaves, rolls will wear out long before the full warp has been completed. On other weaves, the rolls will last for several warps.

After completion of a warp, and during the time when the loom is being made ready for another warp, temple rolls should be given a thorough inspection. If they show wear, it is better to replace them.

Modern temple caps have an opening in the top so that visual inspection can be made of the rolls during loom running time. If rolls stick or are

something better has come along...

...and you can't get away with the old fashioned products anymore. PERMEL durable water repellent finish is new. And **PERMEL FINISH "Plus" aerotex® cream 450** is even better.

This "Plus" combination gives superior water repellence plus wrinkle resistance. In response to an inquiry, retailers indicated the urgent demand for a wrinkle resistant, water repellent finish on rainwear.

They said it could be used to promote more sales!

All PERMEL FINISHES are durable to dry cleaning and laundering. PERMEL resists perspiration stains and water soluble spots. PERMEL is versatile—it can give a fine worsted-like hand to rayon gabardines or the new firm hand for rainwear. Be one of the first to offer **PERMEL "Plus" aerotex cream 450 FINISH.**

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Gas-fired fabric latexing unit from entering end. Cord fabric passes through the dryer after impregnation with rubber or rubber-like material.

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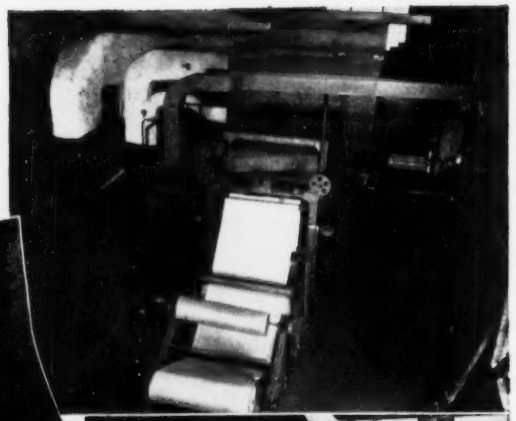

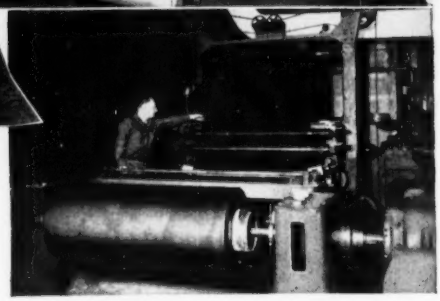

Impregnated fabric leaves the Gas-fired unit dry enough to be spooled immediately.

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Demonstrates Speed of GAS

LATEX IMPREGNATION is one of the important process applications of heat in which GAS serves so successfully as the high-speed production fuel.

First installation of its type, the continuous latexing system at Inland Rubber Corporation, Chicago, demonstrates efficient utilization of GAS for production-line drying. In this process a water-dispersed material of rubber or rubber-like solids is applied to cotton or rayon tire cord web. The dryer, operating at a speed of 28 yards per minute, reduces moisture content of the impregnated web to less than one per-cent.

Speed-heating with GAS in this modern continuous dryer is an important factor in the tire-cord production line at Inland Rubber Corporation. Executives cite these results—

- **Improved adherence of coating to tire-cord**
- **Minimized non-productive time due to rapid warm-up cycle**
- **Drying efficiency improved by automatic temperature control**
- **Reduction in maintenance costs with simplified equipment**
- **Economies in fuel costs over previous heat-processing *medium***

Throughout the textile industry GAS serves the myriad heat-processing needs of production-minded executives. Efficient utilization of this flexible fuel as demonstrated at Inland Rubber Corporation, emphasizes the possibilities for maximum return on an investment in modern Gas Equipment for textile processing. They're worth investigating.

Continuous latexing system designed and installed by Industrial Ovens, Inc., Cleveland, engineers and manufacturers of heat processing equipment.

AMERICAN GAS ASSOCIATION

420 LEXINGTON AVENUE • NEW YORK 17, NEW YORK

MORE AND MORE... THE TREND IS TO GAS FOR ALL INDUSTRIAL HEATING

HOW MUCH CAN NEW DU PONT LUDOX®

☐ **improve your goods?**

☐ **speed your production?**

☐ **boost your profits?**

Added friction, stronger yarn, and improved sizes and finishes are among many advantages you get with "Ludox" colloidal silica

When processing natural or synthetic fibers and fabrics, the chances are that Du Pont "Ludox" colloidal silica can help you do it *better*—and *faster*. And this means an opportunity to expand your sales with increased production or improved products!

NEW APPLICATIONS . . . GREATER ECONOMIES

"Ludox" now comes to you as an aqueous 30% colloidal solution of *almost pure* silica particles, less than 1 1,000,000 of an inch in size. It is chemically reactive, highly fluid and substantially free of alkali. This high concentration gives "Ludox" a very broad range of usefulness—with resulting economies.

CHECKS FABRIC AND FIBER SLIPPAGE

Excellent results in treating both fabrics and fibers with "Ludox" have been reported by textile men.

For example, application of 0.5 to 1% "Ludox" solids to rayon fabrics is effective in substantially eliminating yarn slippage. "Ludox" is also being used for the preparation of weave setting composition to obtain specific hand effects.

Increased friction resulting from use of "Ludox" also strengthens the sliver, roving and yarn. In one case application of 0.1% "Ludox" solids to staple increased card and draw sliver strength by 95 and 116% respectively, with complete elimination of card breaks, which had been a severe problem with this particular synthetic staple.

IMPROVES SIZES AND COATINGS

Textile finishers, too, are using "Ludox" in their sizes and coatings to get increased bond and film strength, increased friction and water resistance, and less dry tackiness.

The textile industry is finding new and varied uses for "Ludox" colloidal silica.

How can "Ludox" help you? A Du Pont Technical Representative will be glad to visit your plant and study your problems.

GET THESE HELPFUL FACTS

Clip the coupon below for your copy of our Technical Bulletin on "Ludox."

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LUDOX®
Colloidal Silica
BETTER THINGS FOR BETTER LIVING
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Specialists in Textile Feeding Machinery Since 1863
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lagged with waste, the head can be removed without loss of time.

Accumulations of waste are more prevalent on the magazine side than on the head side of the loom. Temple marks will also occur more often on this side of the loom. On large sections where fine goods are being woven and temple marks are more or less recurrent, a fixer can save considerable time by carrying a few temple rolls on his usual rounds and making replacements where and when they are needed. Little time is lost during such replacements, and the waste-filled rolls can be cleaned at a later time and used for replacements. If rolls are unfit for further use, they should be discarded immediately.

Credit Union

(*Continued from page 127*)

shareholdings, nor can he act as endorser for any borrower. When a loan application is approved, the credit committee determines the number and amount of notes for repayment. Invariably the committee suggests to the borrower that repayment be made by increasing his usual payroll deduction, thereby keeping his weekly savings the same.

For instance, one member received an unexpected bill for $80. Without any loss of time from work, an application was made and approved for that amount. The employee was purchasing shares by deduction from wages at the rate of $1.50 per week. The committee recommended that the borrower authorize a deduction of $3.00 per week. This was agreed to, and by "painless extraction" his obligation was met; and his systematic saving continued without interruption.

The officers are striving for 100% employee membership and are constantly recruiting by enthusiastically publicizing the advantages of consistent saving. The plant newspaper, *Fiberglas Yarns*, frequently carries stories on increases in members or deposits. The bulletin board and personal contacts keep alive the spirit of cooperative assistance. Many accounts are maintained for vacations, taxes, and Christmas funds.

The management of the Ashton plant benefits from the credit union by having an on-the-spot "banking institution." There is no time lost from work when an employee must have extra cash to meet some pressing need. The office of the credit union is located in the personnel department and is open from 10 to 11 a.m. and from 2 to 4 p.m., Monday through Friday.

One employee who needed $100 above his insurance coverage to bring

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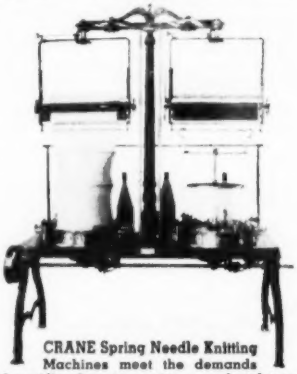
SPRING NEEDLE KNITTING MACHINES
Speed - Quality - Low Cost



CRANE Spring Needle Knitting Machines meet the demands of rapidly changing patterns and styles on all weights of fabrics.

CRANE
MANUFACTURING CO.
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LeaTex
The name that means leadership in
CHEMICAL SPECIALTIES
for the TEXTILE INDUSTRY
"Always Reliable"
LEATEX CHEMICAL COMPANY
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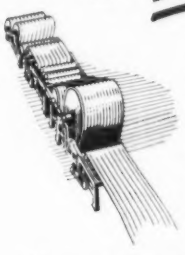
STALEY PRECISION-MADE STARCHES INSURE THESE THREE BENEFITS ...

① *Uniform* SIZING
② *Better* WEAVABILITY
③ *Improved* FINISH



Why not let Staley's highly skilled laboratory technicians recommend without extra cost to you, correct starches for ALL your sizing requirements? Staley's complete line of modified and unmodified Corn Starches—guarded for uniformity by rigid scientific controls—is acclaimed by leading textile manufacturers for consistent high quality and dependability. Let Staley work with you in eliminating forever your sizing problems, just as this company has cooperated with others for more than a quarter of a century.

Write Today for more details!

DEPENDABLE SERVICE FROM THESE POINTS

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DALLAS, TEX.
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Staley's CORN AND SOY BEAN PRODUCTS

STALEY "ECLIPSE" MILL* AND PEARL STARCHES

*THIN BOILING

A. E. STALEY MFG. CO., DECATUR, ILL., U.S.A.

LEAD VALVES

Control Hungry Acids

Chem Ravon "Y" Pattern

Type C "Y" Pattern

Men who need to tame biting acids and put them to useful work have long relied on lead. And they look to the leader in lead . . . National Lead Company . . . for dependable lead and lead-lined acid valves.

National Lead's "United" valves work efficiently at their routine jobs of controlling the flow of corrosive acids. But they also have the built-in stamina and sturdiness to withstand stresses and overloads well beyond their regular lines of duty.

Wedge Type Gate Pattern

The "United" valve you buy is representative not only of National Lead's resources in the lead products manufacturing field but also of resourcefulness in designing acid valves that make the most of lead's inherent corrosion-resistant properties.

Type D Check

Chem Ravon Angle Pattern

Under the name "United," National Lead Company offers a complete line of hard lead and lead-lined flanged acid valves —"Y" and angle patterns, gate, check, foot and diaphragm.

Diaphragm Pattern

Type R Reversible-Angle or "Y"

Look to the Leader for Lead

. . . in everything from lead pipe . . . valves . . . sheet . . . and lead-lined or lead-covered equipment . . . to complete acid recovery plants.

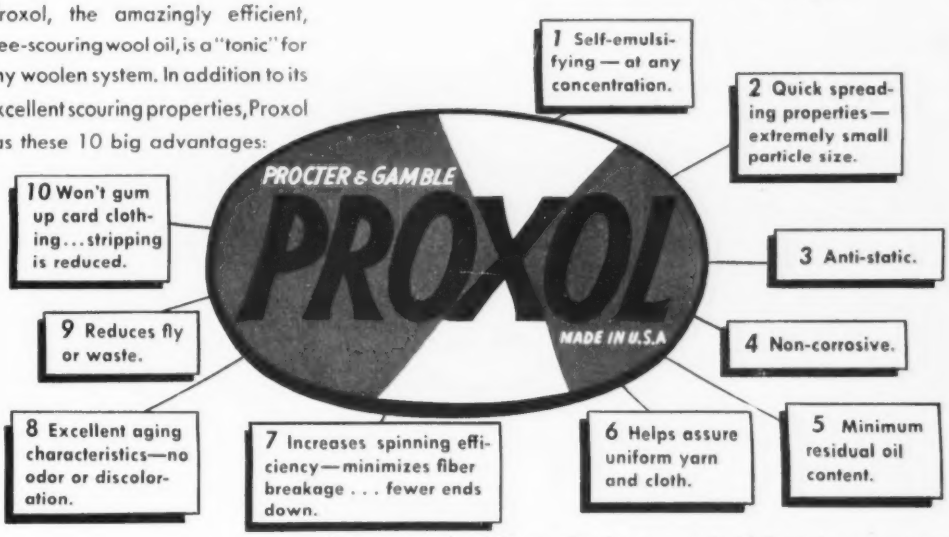
NATIONAL

Lead Company

New York 6; Baltimore 3; Buffalo 3; Chicago 8; Cincinnati 3; Cleveland 13; Pittsburgh 12; St. Louis 1; Boston 6; (National Lead Company of Mass.); Los Angeles 23, (Morris P. Kirk & Son, Inc.); Philadelphia 25, (John T. Lewis & Bros. Co.); Atlanta (Georgia Lead Works, Div. of Cincinnati Branch); Toronto, Canada (Canada Metal Co. Ltd.).

THIS EFFICIENT WOOL OIL SCOURS EASILY *Even after aging in the cloth!*

Proxol, the amazingly efficient, free-scouring wool oil, is a "tonic" for any woolen system. In addition to its excellent scouring properties, Proxol has these 10 big advantages:


PROCTER & GAMBLE
PROXOL
MADE IN U.S.A.
1 Self-emulsifying — at any concentration.
2 Quick spreading properties — extremely small particle size.
3 Anti-static.
4 Non-corrosive.
5 Minimum residual oil content.
6 Helps assure uniform yarn and cloth.
7 Increases spinning efficiency — minimizes fiber breakage . . . fewer ends down.
8 Excellent aging characteristics — no odor or discoloration.
9 Reduces fly or waste.
10 Won't gum up card clothing . . . stripping is reduced.

When scoured wool is atomized or sprayed with Proxol, you can count on trouble-free carding and spinning. It will pay you to try Proxol.

Procter & Gamble **CINCINNATI, OHIO**

Makers of **OLATE FLAKES,** *the universal low titer textile soap.*

The finest machines for every knitted fabric

Mellor Bromley

Write for descriptive leaflets of the Mellor Bromley Interlock and many other top line machines.
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Pullovers and cardigans—"Superloop" underwear fabric—Jacquard shaped vests with draw thread and welt—Jacquard outerwear—Elastic web and foundation garments—Interlock—Jacquard shaped underwear—Dress fabrics—Rib fabrics and rib ends—Multifeeder plain fabrics.

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IN HOSIERY DYEING
Use
ROSOFT
PREVENTS STICKING TO THE BOARDS

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his wife and new baby home from the hospital has enthusiastic praise for the swiftness of action by the credit committee. He made application for a loan in the morning stating that speed was imperative. Immediately the committee members were called to a meeting and the application was approved. When the man left the plant at the end of his shift, he had the check in his pocket.

COMPANY SUPPORT. The company, recognizing the loyalty that such a service inspires, contributes all the administrative costs of the program. The payroll department deducts all share payments from weekly pay checks. Loan payments are withdrawn from share accounts as notes become due. In the event of a leave of absence from work, employees have kept their accounts from becoming delinquent by mailing payments to the credit-union office on or before the due date.

The Fiberglas credit union is governed by Federal Credit Union by-laws which guarantee maximum security for shareholders. For instance, all entrance and transfer fees, fines, and 20% of net earnings for year (before declaration of any dividend) are set aside as a reserve against possible future bad loans. All deposits are insured by the Federal Deposit Insurance Corp. The funds of the credit union can be invested only in loans to members, obligations of the U. S. Government, or securities guaranteed thereby. Loans to other credit unions cannot exceed 25% of the credit union's unimpaired capital. Any other investment must be compatible with the Federal Credit Union Act.

Each year an auditor from the Federal Credit Union in Washington, D. C., visits the Ashton, R. I., plant to audit the books and to inspect the type and quality of investments, approve loans, and to check meetings of credit committees. He thoroughly searches each case and points out errors or advises new methods of operation. His fee is paid from funds of the local credit union.

Members declare dividends on the recommendation of the board of directors at each annual meeting. The by-laws limit dividends to 6%, and these are paid on each share fully paid up before Dec. 1, and outstanding on Dec. 31 of the preceding year.

It is evident that this service to the people of Owens-Corning Fiberglas is a valuable device for both the employer and the employees. A worker, after discussing his financial problems with the credit-union representative, usually maintains peace of mind, and the result generally is an improvement in his work. It is a well-

GET MORE FROM WASTE

Efficient mills are cutting their clean waste and reprocessing it for use, instead of selling it to others who realize on its value.

Many mills are using this efficient Taylor-Stiles thread waste cutter for a saving of thousands of dollars each year.

Write for facts as we know them.

TAYLOR-STILES Company

15 Bridge Street Riegelsville, N. J.

FINDS GOLD MINE...

... Of Buying Information

Mr. C. S. Patchin, whose picture is shown above, finds that one of the regular McGraw-Hill services is a veritable gold mine of information helpful to him in his job.

Mr. Patchin is purchasing agent for the Firth Carpet Company of Auburn, New York. His "gold mine" is an up-to-date source of buying information and complete directory on textile machinery, equipment and supplies—McGRAW-HILL'S PRE-FILED TEXTILE CATALOGS.

Mr. Patchin says: "*We find TEXTILE CATALOGS to be very useful in our Purchasing Department, and thank you for keeping us supplied with same.*"

Other textile men responsible for the buying, specifying, or ordering for their mills, who do not have access to this useful service, should write on their company letterhead to McGRAW-HILL CATALOG SERVICE, 330 West 42nd Street, New York 18, New York.

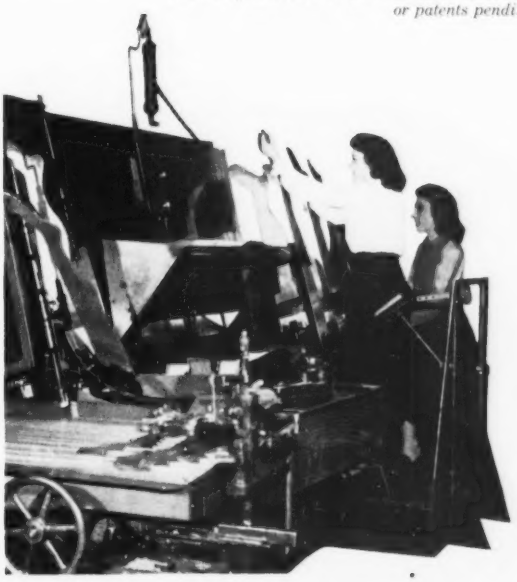
NEBEL

nylons, well known to discriminating women, and the product of Nebel Knitting Company of Charlotte, N. C., are boarded exclusively on Proctor automatic boarding machines. This prominent knitter, like many other hosiery manufacturers, has discovered from experience that Proctor equipment can be depended upon to produce top quality results consistently. Drying, stripping, piling and counting are made into one completely automatic operation—relieving boarders of every task except actually placing hosiery on boards. In this way, they can concentrate all of their attention to doing a quality job. In fact, Nebel boarders may sit or stand as they work—for all of the Proctor machines in use in this mill are equipped with Proctor adjustable Boarders Stands and Seat Rests. This specially designed rest permits boarders to take the weight off of their feet as they continue to work.

Proctor machines are the only boarding equipment that permit this freedom . . . a feature which makes it popular with boarders.

If you are not already acquainted with the many advantages of Proctor automatic boarding machines—write for details today.

Much of Proctor drying equipment and textile machinery is covered in full or in part by patents or patents pending.



PROCTOR & SCHWARTZ, INC.

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Better Rayon with These Hooker Chemicals

Chemists who have worked to improve rayon production have learned that they can depend upon the high quality of Hooker Caustic Soda. Because of its continued dependability, Hooker Caustic Soda has retained its popularity in the Rayon Industry over the years.

These same high standards are upheld in all Hooker Chemicals. The ever increasing use of Hooker Rayon Chemicals testifies to the confidence users have learned they can place in Hooker products.

Here are five of the Hooker Chemicals that are helping in the manufacture of viscose rayon. The consistent high purity of these Hooker Chemicals lightens your work and enables you to turn out uniformly high quality products.

PRODUCT	*DESCRIPTION*	*USE*
Caustic Soda	Specially refined for Rayon Industry. Impurities carefully controlled. In solutions of 50% and 73% concentration.	Mercerizing pulp to form alkali cellulose having *reproduceable solution viscosity.*
Liquid Chlorine	Light orange liquid or greenish yellow gas of uniform high quality.	Treating process water. Preparation of hypochlorite bleaching solutions.
Lauryl Pyridinium Chloride	A mottled tan semi-solid. Solubility in water is 60 gms per 100 gms of water.	As a cationic detergent to keep spinerettes* clean. Wetting and cleaning agent for textile fibers. As a leveling agent and color modifier in dyeing.
Sodium Sulfide	A light yellow colored solid relatively free from iron and other heavy metal salts.	In desulfurizing rayon yarn. Manufacture of dyes.
Sodium Sulfhydrate	A light yellow colored solid of high purity and negligible metal content.	For preparation of desulfurizing bath. Manufacture of dyes.

Data sheets and samples of Hooker Chemicals will be sent when requested on your letterhead. If you do not have a copy of our General Products List we suggest you write us for one today. It contains information on Hooker Chemicals and processes many of which have a wide application in the textile field.

**This use is controlled by U. S. Patent Number 2,125,031.*

HOOKER ELECTROCHEMICAL COMPANY

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New York, N. Y. Wilmington, Calif. Tacoma, Wash.

HOOKER CHEMICALS

8385

WHAT DO TREES HAVE TO DO WITH TEXTILES ?

Our forest properties are kept continuously productive under far-sighted management policies.

In our four mills, a number of types of highly purified cellulose are produced by chemically processing wood.

More than eighty per cent of all viscose rayon and acetate yarns produced in this country are made from highly purified cellulose derived from trees.

Today, a high percentage of the better textiles are made from viscose and acetate fibers—textiles that are used in most types of wearing apparel and in many other products. One reason for the growing demand for articles made from these yarns is the progress that has been made in fabricating and processing them.

By mixing or blending the two types of fiber, or by blending them with other textile fibers, a great variety of superior new fabrics has been produced.

Rayonier does not manufacture yarns or finished textile products; but for nearly twenty years the domestic textile industry has looked to our mills as a source of supply for the highly purified wood cellulose needed to produce fibers and yarns. Today, nearly half of this industry's wood cellulose requirements are being met by the Rayonier organization.

RAYONIER
INCORPORATED

EXECUTIVE OFFICES: 122 East 42nd Street, New York 17, New York • MILLS: Hoquiam, Port Angeles, Shelton, Washington; Fernandina, Florida

PRODUCER OF HIGHLY PURIFIED WOOD CELLULOSE for TEXTILES • TIRE CORD • CELLOPHANE • PLASTICS

This Pin LASTS LONGER

...assures perfect service!

By keeping ahead with new developments, Crabb gives you stronger and better pins, to meet the most difficult requirements of modern textile processing!

These Pins—produced with new micromax heat-treating equipment—solve the problem of longevity plus uniformity. If you need pins made to meet special conditions, such as BREAKING but not BENDING, and vice versa, we can produce them for you by the new methods of hardening and tempering steel.

Our 78 years of service are at your disposal.

In addition to pins, our line includes *Lags, Cylinders, Combs and Hackles*—all of modern design and offer many advantages. Stocks on hand to give you quick delivery. Write us today.

William Crabb & Co.

301 Third Ave.

Newark, N. J.

known fact that a person cannot do his best work if he is harrassed by monetary difficulties. He values the sympathy given to his problem.

Many who were awed by the austerity of large banking institutions, and distrustful of the simplicity of the smaller ones, are now happily accumulating a constantly increasing bank account. Immediately after the opening of the credit union, many employees brought funds that had been hidden in their homes. Many large deposits were passed through the office for safekeeping.

The management recently demonstrated the effect of the banking service in lifting the morale of one of the employees. The man went about his chores with an indifference that was unusual and therefore noticeable to his foreman. He was cross and moody, and his production was below standard. By careful and sympathetic questioning, the foreman learned that this man was worried and downcast because he had received a demand from a "loan shark" who held a chattel mortgage on his furniture. Just when he believed his debt was fully paid he was assessed a $50 fine for delinquent payments. The bill was accompanied by the usual threat of attachment of wages. The foreman immediately advised the man to use his credit with the "employee's bank." The demand was paid immediately after the credit committee approved a loan for the full amount, and the man's composure was restored. He also learned that it is much less disturbing to borrow money at 1% per month from his own credit union than to suffer the discomforts, insults, and high rates of interest imposed by some professional money lenders.

Knowledge of LEGAL DECISIONS Can Be Helpful to Mill Men

HIGHLIGHTS: *Mills and mill workers can avoid lawsuits through knowledge of legal precedents—Favorable verdicts in unavoidable cases are made easier if legal limitations are kept in mind—Eviction, trademark, injury, and insurance litigations are among examples studied.*

By LEO T. PARKER

Attorney at Law

RECENTLY THE HIGHER COURTS have rendered legal decisions which affect textile mills and personnel. Many of the new decisions reverse older law. In this article we shall review the outstanding of these higher-court decisions in the hope of helping readers to avoid similar law suits and also of assisting them, by simple explanations and suggestions, in winning favorable verdicts in unavoidable suits.

Mill management will be interested in the following decisions:

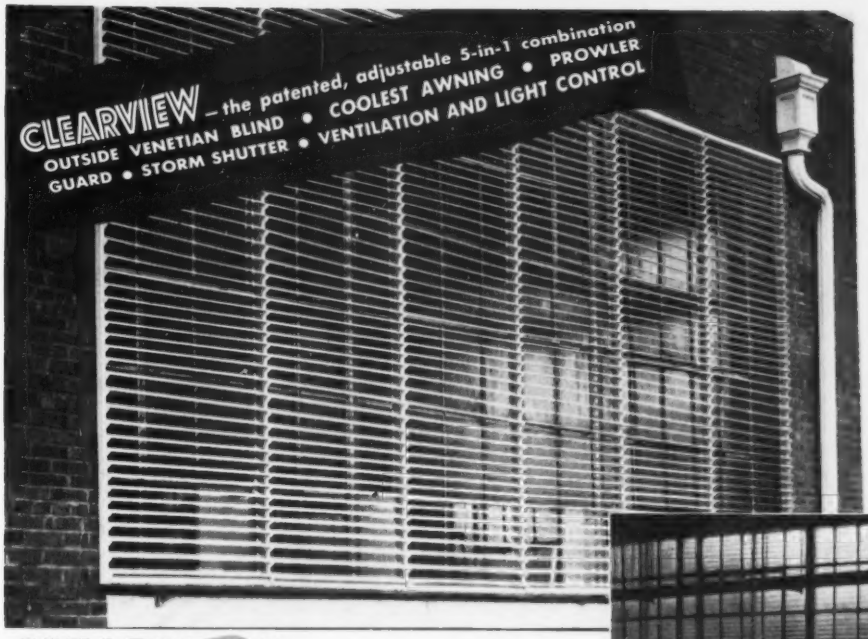
EVICTION. *You can't evict from a company house a family of a person in military service.*

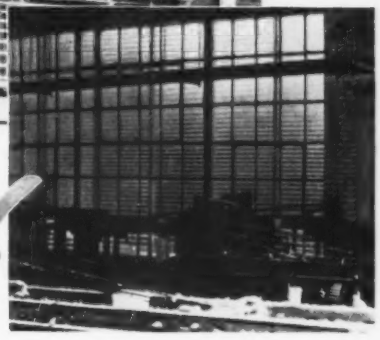
Example: In Clinton Cotton Mills v. United States, 164 Fed. (2d) 173, the testimony showed that a man named Thomas had worked for the Clinton Cotton Mills for some years and, with his wife and four children, had occupied a company house at $3 a week rent. Thomas entered the military service. He informed his immediate supervisor at the mill of this fact. Later the boss weaver demanded that Thomas move out of the house rented to him by the defendant. On the next day the Clinton Cotton Mills' outside supervisor of houses came to Thomas' home and told him and his wife that they would have to move or they would be served ejectment papers. Finally Thomas made arrangements to move his family into the house of his mother-in-law.

Verdict. The lower court convicted the company for evicting dependents of a person in military service. The higher court approved the verdict, saying:

"The mere recital of this testimony demonstrates beyond question that there was sufficient evidence to justify the verdict of guilty. Indeed it is difficult to conceive a clearer case of eviction."

TRADEMARKS. The Patent Office will not register a trademark likely to confuse the public. Therefore, *a mill should not waste time, money, and ef-*


CLEARVIEW – the patented, adjustable 5-in-1 combination
OUTSIDE VENETIAN BLIND • COOLEST AWNING • PROWLER
GUARD • STORM SHUTTER • VENTILATION AND LIGHT CONTROL



CLEARVIEW *Controlled* HUMIDITY

....for greater mill efficiency

PROVED RESULTS! AFTER INSTALLATION OF CLEARVIEWS, AIR-CONDITIONING EQUIPMENT TONNAGE REQUIREMENTS ARE REDUCED; IN ALMOST EVERY CASE MORE THAN PAY FOR THEIR INSTALLATION IN SAVINGS AND PROTECTION

The load required for air-conditioning units is reduced because CLEARVIEWS deflect outside heat, reducing inside temperature control requirements. Rooms without air conditioning can be kept from 10 to 20° cooler, depending on the amount of glass surface exposed to the sun.

CLEARVIEWS eliminate outside glare, making better inside working conditions. Windows can be left open even during rainy weather. CLEARVIEWS provide a better humidity control, and an even distribution of ventilation, that make a more efficient operation, cutting down thread breakage.

CLEARVIEWS operate from the inside and are made from rustproof and stainproof aluminum and custom made to fit each window. Installed outside—available with or without screens. Clearviews are available in your color choice.

OVER 300,000 INSTALLATIONS IN 12 YEARS

WRITE TODAY FOR LITERATURE AND COMPLETE INFORMATION. OUR ENGINEERING STAFF WILL SUBMIT A DETAILED REPORT ON YOUR CLEARVIEW REQUIREMENTS WITHOUT OBLIGATION. F.H.A. TERMS.

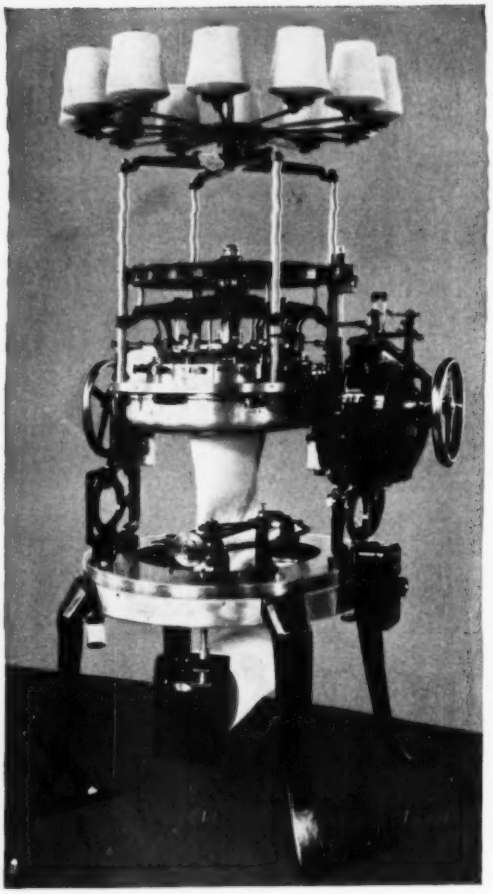
BRANCHES: HOUSTON, SAN ANTONIO, CORPUS CHRISTI, NEW ORLEANS, LITTLE ROCK, MEMPHIS, JACKSON, MISS., ATLANTA, MIAMI, TAMPA, WEST PALM BEACH, ST. PETERSBURG, AND LOS ANGELES

OUTSIDE VENETIAN BLIND CO.

DIV TASCO CO EST 1922

Factories in Dallas, Texas and Ft. Lauderdale, Florida

EXECUTIVE OFFICES: 2625 ELM ST., DALLAS 1, TEXAS



All eyes are on this New

WILDMAN Knitting Machine!

Here's a machine that can be made to meet your most intricate or your simplest operation. So flexible, our engineers can easily adapt it to any knitting demand of your mill.

Its product is consistently and beautifully perfect . . . offering exceptional style range and remarkable accuracy in garment sizes. Its construction embraces many exclusive features and operational advantages—among them the ability to tie cone to cone without stopping the machine. Lots of other features.

Wildman Mfg. Co., Norristown, Pa.

SODA ASH • CAUSTIC SODA • CHLORINE • BICARBONATE OF SODA • SILICATE OF SODA

Chemicals you live by

NEW TWISTS ON AN OLD TALE

The handling and storing of chemicals is to you an old tale. As it is to us.

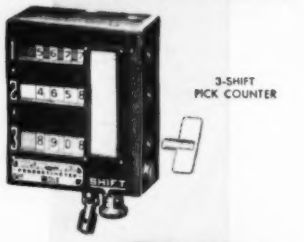
However, DIAMOND ALKALI continuously studies the problem of unloading, handling and storing. From time to time, it develops improved methods. Often special means are devised for solving individual problems which arise out of local conditions.

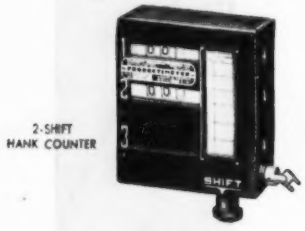
Your DIAMOND salesman is posted on these new angles. It isn't something he would bring into the conversation just cold. But if you will ask him, you will find he knows a lot about chemicals beyond the mere selling of them. Next time you have a problem, please feel free to put your DIAMOND salesman's broad knowledge and the facilities of DIAMOND's Technical Service staff to work for you.

DIAMOND ALKALI COMPANY • CLEVELAND 14, OHIO

DIAMOND ALKALI CHEMICALS

PRODUCTIMETER
TEXTILE COUNTERS
for every application!





Productimeters meet every need of the mill man in providing accurate production records. They eliminate losses... help maintain maximum production ... and supply an accurate basis for wage payment.

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131 Orange St. Providence 3, R. I.
Representatives in Principal Cities

PRODUCTIMETERS
SINCE 1879
Speedometers OF INDUSTRY

fort advertising a "confusion" trademark.

Example 1. In Kenosha Full Fashioned Mills, Inc., v. Artcraft Hosiery Company, 161 Fed. (2d) 751, the Court of Customs and Patent Appeals held that use of the trademarks "Artcraft" and "Edgecraft" upon hosiery would be likely to cause confusion. Hence an application for the registration of trademark "Edgecraft" was denied in view of the senior trademark "Artcraft."

Example 2. In Crown Fabrics Corp. v. American Viscose Corp. 145 Fed. (2d) 246, the court held that the trademarks "Crownfast," "Crownperm," "Crownshrunk" for use on cotton, spun-rayon, and spun-acetate fabrics were confusingly similar to the previously registered trade-mark consisting of the word "crown" and a pictorial representation of a crown for use on rayon yarn. Hence the Court of Customs and Patent Appeals refused to register any of the three mentioned trademarks.

UTILITIES. Mills can win law suits against municipalities, and public utility companies for damage to buildings, merchandise, and other property caused by defective water, gas, and sewer lines. *But mills must be on guard for utility defects and immediately notify the city or utility.*

Example. In Interstate v. City of Cleveland, 74 N.E. (2d) 239, the testimony showed that a warehouse was at the bottom of a steep hill, while the city had a large water main at the top of the hill. The water main burst, and a huge quantity of dirt, stones, and water, accumulated previously when a street was repaired, was thrown down the hillside against and into the warehouse, thereby considerably damaging the building and the textile merchandise stored in the warehouse.

Verdict. The higher court refused to hold the city liable because the company officials failed to complain to the city officials about the depositing of rocks and dirt above the warehouse.

FIRE LOSSES. *An insurance company cannot avoid paying a fire loss on the grounds that the insured did not keep a complete day-to-day inventory in cases where the insured reasonably proves value of destroyed stock.*

Example. In North British & Mercantile Ins. Company v. Crowley, 164 Fed. (2d) 550, it was shown that a textile company held an insurance policy which contained a clause that in case of a fire loss the company should furnish a complete inventory of the destroyed, damaged, and undamaged property—showing in detail quantities, costs, actual cash value and amount of loss claimed; and within sixty days after the loss, should offer a proof of loss, signed and sworn to by the insured.

A fire occurred and destroyed a warehouse containing cotton waste. The company compiled proofs of loss by tabulating and balancing the stock cards of the warehouse, and thus arrived at the number of bales of each type. Then from the invoices they averaged the weight per bale of each particular type over a period of several months. By multiplying the average weight by the number of bales, they reached the total weight of each type of waste in the warehouse at the time of the fire. From their "actual knowledge of the waste business" they "applied a price that would be a fair value" to each grade of merchandise. By this method the total value of the waste destroyed was found. The report showed as on hand the day of the fire a provisional total of 1,254,732 pounds of waste, plus 2,800 bundles of ties and 57 unidentified bales.

Verdict. The insurance company had refused to pay the textile company, which sued for $74,000. The higher court ordered the insurance company to pay the loss, saying:

"The plaintiffs did have a complete inventory, as of the first of the year, and, moreover, they filed monthly reports as to the value of the stock on hand in the destroyed warehouse. They also maintained an impressive set of books."

Mill workers might well consider the following court decisions:

TOTAL DISABILITY. *An employee who receives a personal injury arising out of and in the course of his employment may recover compensation based on total permanent disability, although he is capable of doing other work.*

Example. In Samels v. Goodyear, 26 N.W. (2d) 742, a worker named Samels injured his arms and asked the court to grant compensation for permanent and total disability. Samels testified that this injury did not prevent him from using his arms in the ordinary sense, but that he could not do his regular work.

The higher court awarded compensation based on total permanent injury, although Samels earned wages on another job.

INJURY COVERAGE. It is true, of course, that many courts have held that an employee is not entitled to compensation under the State Workmen's Compensation Act for injuries received while acting outside the scope of his regular work. However, according to a recent higher court *an em-*

BRANCHES IN PRINCIPAL CITIES OF U.S.

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NEW WEST MISTORIZER AUTOMATICALLY SPRAYS
INSECTICIDES FASTER FURTHER AND WITH LESS EFFORT
IT IS THE ONLY AUTOMATIC INSECTICIDE SPRAYER IN
AMERICA WITH SO MANY NEW EXCLUSIVE FEATURES
FREE DEMONSTRATION UPON REQUEST WRITE OR WIRE AT ONCE

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USE WEST'S VAPOSECTOR FLUID, A HIGHLY CONCENTRATED INSECTICIDE ESPECIALLY FORMULATED FOR MOST ECONOMICAL AND EFFICIENT RESULTS WITH THE NEW MISTORIZER.

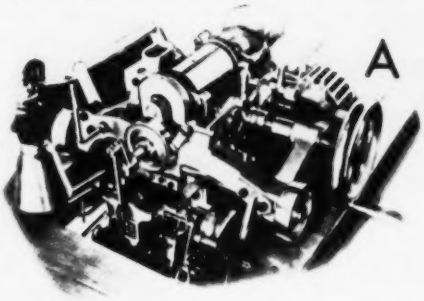
Vaposector Fluid is harmless to humans—non-corrosive—non-staining—will not contaminate foodstuffs. Write for further information and free demonstration.

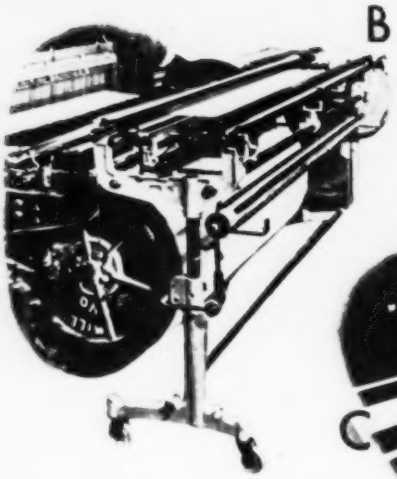
FEATURES

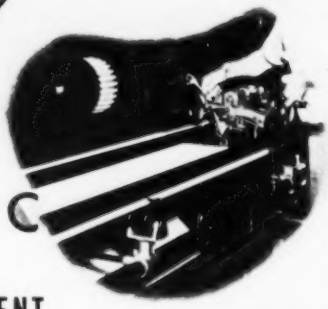
- Toggle switch operates on AC and DC
- Optional time clock at no extra cost (AC only)
- Automatic shut-off
- Operates 1 to 24 minutes (or manually)
- G.E. 1/8 HP Universal motor
- Requires no filters, oiling or greasing
- Patented airflow system cools motor
- Completely leak-proof
- Wide neck for easier filling
- Rotary Compressor creates spray (this is not a fan-type unit)
- Graphitar lubrication allows unit to run wet or dry
- Clog proof spray nozzle 180° adjustable
- Container withstands chemical action of insecticides
- Precision built to save time and labor and for trouble-free years of service
- Aluminum alloy casting rust resistant
- Low center of gravity for easier handling and aids in preventing unit from tipping over
- Specially built-in fuse assembly protects against burn-outs
- Utilizes every drop of insecticide
- Instantaneous and continuous full pressure spraying
- Density of spray easily regulated by air volume control dial
- Ball bearings hermetically sealed
- No condensation of steam or water to dilute insecticide

The "Little Uster"—the fastest and most efficient Warp Tying Machine built

Here's Why...







A. Tying Head—the "heart" of this precision built incomparable machine.

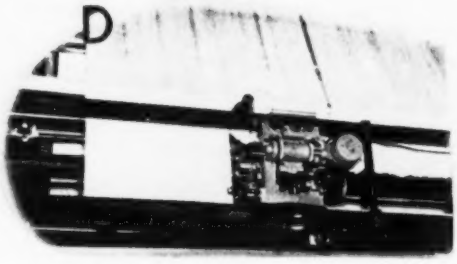
B. Tying Frame with new warp which is prepared completely in a single operation while "Little Uster" is tying on another. Note minimum space required.

C. Placing Head on prepared Frame which in a few seconds will be tying 250-350 firmly tied knots per minute.

D. Birds Eye View—Tied ends completely visible and accessible.

FAST · FLEXIBLE · EFFICIENT

Ties up to 120,000 ends in 8 hours—Entire warp tied in one single "bite"—Ties leased sheet to unleased sheet—Ties with or without lease—Portable or Stationary—Adjustable within two minutes for tying any material—Entire warp tying process greatly simplified and accelerated from 30% to 70% with the "Little Uster".

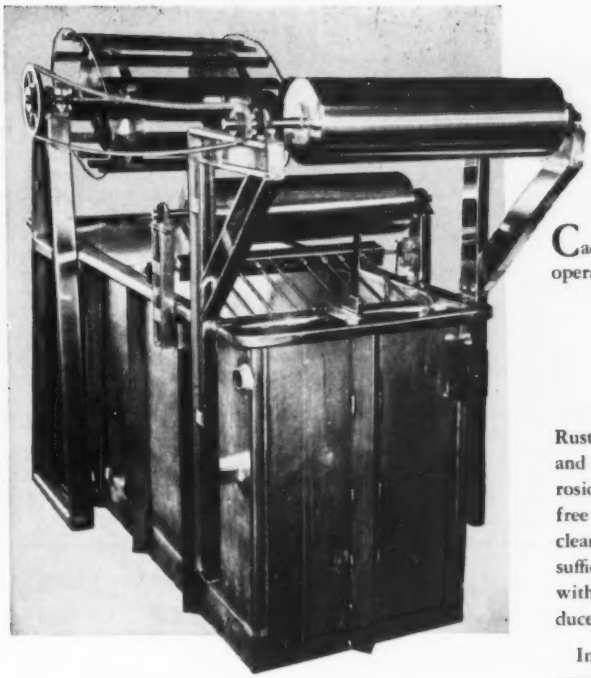


USTER CORPORATION, CHARLOTTE, N. C.

80 Boylston Street, Boston 16, Mass.

Keep operating costs down with this

all-Monel dye beck



Cadgene all-Monel* dye becks will help you cut operating expenses in *three* important ways . . .

1. **Longer equipment service life**
2. **Low maintenance costs**
3. **No losses from rust stains and contaminated dyes.**

Rustproof Monel withstands concentrated brines and caustic solutions without pitting or stress corrosion cracking . . . which means long and trouble-free life for Cadgene dye becks. Monel is easy to clean; merely flushing with tap water is usually sufficient. And since Monel does not readily react with dye solutions, metallic contamination is reduced to the vanishing point.

In Cadgene becks, the dye bath is heated by an open steam coil. The bath temperature is thermostatically regulated. Reel speed is governed by a Sterling Speedtrol, and is variable from 8 to 30 rpm. Tank, supports, and fabric contact surfaces are constructed of #11 gauge sheet Monel, with corrosion-resisting welded joints throughout. All-Monel Cadgene dye becks are available in several sizes, from 2 to 20 feet.

Whenever you need repairs or new equipment . . . consider the many advantages of Monel. Experienced Inco Nickel Alloy fabricators will gladly study your requirements. Or, if you prefer to do your own fabricating, your nearest Inco distributor stocks Monel in sheet, rod, tubing, wire cloth, Anchorfast nails and other fastenings.

Inco's Technical Service Department is always ready to help you solve metal and fabrication problems.

*Reg. U. S. Pat. Off.

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For further information and prices on all—Monel Cadgene dye becks, write directly to:

CADGENE MACHINERY COMPANY
Paterson, N. J.

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ANGUS

Utmost care is taken to obtain only the choicest jute fiber for Angus burlap. It is then processed to rigid specifications to assure the extra strength and finer appearance for which Angus is famous.

BEMIS TITE-FIT BURLAP TUBING saves time and money for those who package odd-shaped and bulky products.

WORLD'S LARGEST IMPORTER OF BURLAP

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ployee remains within the scope of his employment while assisting another employee to prevent stoppage of textile machinery, and is thus covered by the Compensation Act.

Example. In Demetre's Case, 76 N. E. (2d) 140, an employee of a textile manufacturer suffered a fractured arm by hitting with his hand a twisted belt on a machine operated by a fellow employee. The machine was operated for the purpose of unwinding bobbins of yarn, and the injured employee was assisting the operator to keep weavers supplied with yarn.

Verdict. The higher court held that although the employee was injured while attempting to assist a fellow employee, he was entitled to compensation under the State Workmen's Compensation Act. This court said:

"His superior knew that he was aiding the yarn girl. We cannot say that his attempt to restore the machine to a state of usefulness and the means adopted were unreasonable and so unrelated to the service he was employed to render that, as matter of law, the injury did not arise out of and in the course of his employment."

STRIKES. Employees put into unemployment caused by striking fellow-employees cannot receive unemployment compensation, according to a recent legal decision.

Example. In State ex rel. Unemployment Compensation Commission v. Martin, 45 S.E. (2d) 385, the testimony showed that the Slane Hosiery Mills is engaged in the manufacture of men's seamless hosiery and normally employs between 200 and 225 workers in the knitting department and between 100 and 200 workers in the finishing department. The boarders went on a strike. Since the boarders' work was continuous and integrated with others in the finishing department, all employees in the latter department were unemployed from September 3 through November 6. All employees in the finishing department appealed for compensation under the State Unemployment Act.

Verdict. The higher court refused to award unemployment compensation and said:

"Employee claimants were disqualified from unemployment-compensation benefits."

CELCOS All-Purpose Fiber Offers New Blend Possibilities

HIGHLIGHTS: *Recently introduced chemical staple fiber combines ease of processing with ability to cross-dye and absorb resins and other finishes—The third member of the rayon group, Celcos lies roughly midway between acetate and viscose fiber.*

A NEW CHEMICAL STAPLE FIBER, combining the features of acetate and viscose staple fibers in its ease of processing and ability to cross-dye and to absorb resins and other finishes, has been brought out commercially by Celanese Corp. of America. It has been named Celcos.

Samples of fabric containing various percentages of the newest fiber were shown recently by the company. Harry Price, vice president in charge of sales for the corporation, said that the Celcos-brand fabrics were suitable for suitings and dress goods and that new applications would follow as the company and its mill customers pursue their development work.

Constituting the third member of the rayon staple group, Celcos lies roughly midway between the acetate and viscose staple fibers, with the characteristics of the former predominating. It is crimped in some of the filament sizes and lengths, in both bright and dull lusters. It is more moisture absorbent than acetate staple and less moisture absorbent than viscose staple. It is less thermoplastic than acetate staple, and it can be dyed

Samples of Celcos blended fabrics

1. **Fin. count**—24/4 x 38
   Oz. per sq. yd.—7.4
   Warp—300/80/22 Dull Celanese
   Filling—18/2 Bright spun Celcos
   14 t.p.i. Z 12 t.p.i. S ply
   3 den. per fil. 2-in. Celcos
   Reed—44.75
   Fin. width—42 in.

2. **Fin. count**—27.2 x 44
   Oz. per sq. yd.—6.2
   Warp—3 x 150/40/30 Dull Celanese
   24/2 50/50 Dull Celanese and Celcos, 3 den. per fil.
   Plied—2 x 75/20 Dull Celanese
   24/1 50/50 Dull Cenanese and Celcos, 3 den. per fil.
   Filling—3 x 150/40/30 Dull Celanese
   14/1 50/50 Dull Celanese and Celcos, 3 den. per fil.

FOR BETTER INDUSTRIAL LIGHTING LOOK FOR THE "HIDDEN PLUS"

You can't see the ballast in an assembled fluorescent lighting fixture—yet the quality of the ballast largely determines the quality of the fixture.

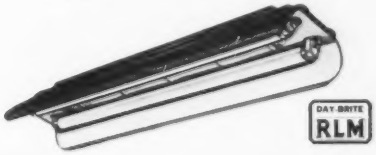
A Certified ballast is the "hidden plus" which assures full lamp life, quiet operation, rated light output and dependable performance for the life of the fixture. In short, a fixture with a Certified ballast will do its job *well* over a *long period* of time.

But how can you identify a top quality ballast? Easy! Just look for the Certified E. T. L. shield right on the ballast.

CERTIFIED ETL SPEC NO 6 HIGH PF

This shield can be placed *only* on those ballasts which have met strict specifications and have been checked and tested by Electrical Testing Laboratories, Inc., an *impartial* judge.

The easiest way to turn out an "economy" fixture is to install a cheaper ballast—a part you don't normally see. But "cheap" fixtures *can't* deliver dependable, efficient lighting. Demand the "hidden plus"—the Certified E.T.L. shield on the ballast—and get *better* lighting.



DAY-BRITE'S NEW "TUR-A-TOP" FIXTURES HAVE THE "HIDDEN PLUS"... AND MORE!

You'll find the ballasts in "Tur-A-Top" fixtures are Certified E.T.L. ballasts. And you'll find many other points of superiority, such as:

- ✔ **ONE-PIECE TOP,** stamped out of deep drawing steel—strong and attractive in appearance.
- ✔ **TWO COATS OF PORCELAIN** for extra resistance to chipping, acid and alkali.
- ✔ **RIGID LAMP HOLDERS** fastened to the stamped top for *extra* strength.
- ✔ **NO-BLINK LAMP STARTERS** are easily accessible without disturbing the lamps.
- ✔ **BEADED REFLECTORS** to assure that "Tur-A-Top" reflectors can never become bowed or wavy.
- ✔ **WING NUTS** have extra large 2-inch diameter to prevent chipping, assure positive mounting of reflector to channel. Off and on in one minute—no tools required.

Like all machinery, an industrial lighting fixture is best judged on the basis of *high quality* . . . to assure low maintenance and replacement cost. Start *right* . . . with Day-Brite. Specify Day-Brite "Tur-A-Top" fixtures . . . and save money in the long run. Write today for Bulletin 30-B.

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DAY-BRITE *Lighting*

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"Our Du Pont systems speed up processes . . . produce quality bleaching at considerable savings"

Lowell Bleachery South plant, at Griffin, Ga.

Read why . . . Lowell Bleachery South installed a second Du Pont Continuous Peroxide System

LOWELL BLEACHERY SOUTH

BLEACHERS DYERS NAPPERS AND FINISHERS OF

COTTON PIECE GOODS AND FABRICS

GRIFFIN, GA.

February 18, 1949

E. I. Du Pont de Nemours & Company, Inc.
Wilmington, Delaware

Gentlemen:

Our company was among the first to install the continuous bleaching process in 1941 when a Two-Stage Du Pont Continuous Rope Bleaching Range was installed in our bleachery. This has been in continuous operation since that date and the performance has more than met our expectations. Through the use of this equipment we have been able not only to speed up our processes but to carry out high quality bleaching at a considerable saving in cost.

An important part of our post-war modernization and expansion program called for the installation of equipment for processing medium and heavy weight goods for dyeing. We made a thorough investigation of all the available processes and found that the Du Pont Open Width Bleaching System was best suited to our requirements.

Consequently, in 1948, we installed a complete two-stage open width bleaching range including drying cans and it was put into operation about November 1, 1948 and has been going continuously since that time. Medium and heavy goods processed in our open width system are now being dyed in vat and sulphur colors without difficulty, both pad jig and continuous method being used with highly satisfactory results.

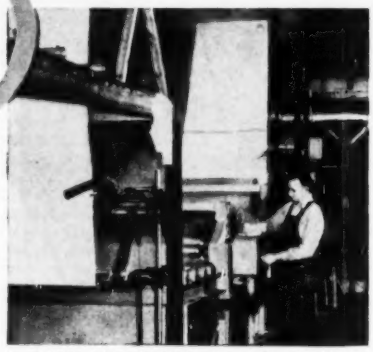
Yours very truly,

LOWELL BLEACHERY SOUTH

Vice President

GBM/H

MEMBER OF NATIONAL ASSOCIATION OF FINISHERS OF TEXTILE FABRICS



New Du Pont Open Width Continuous Peroxide Bleaching System in operation at Lowell Bleachery South.

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TO BLEACH MORE GOODS FASTER AT LOWER COST

There's a Du Pont System to meet your specific requirements. Du Pont technical service men will help you select equipment and start up your process. Just write E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Delaware.

DU PONT CONTINUOUS PEROXIDE BLEACHING

DU PONT

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☐ I will pay when you bill me. ☐ I enclose remittance.

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Company_____

*Above rates are for U.S. and U.S. possessions ONLY.

CANADA: $3 ☐ 1 year . . . $5 ☐ 2 years . . . $6 ☐ 3 years (payable in Canadian or U. S. funds.)
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OTHER COUNTRIES: $15 ☐ 1 year . . . $25 ☐ 2 years . . . $30 ☐ 3 years. 6-49

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Send me 3 years of "TEXTILE WORLD" for $4* ☐

☐ I will pay when you bill me. ☐ I enclose remittance.

CHECK HERE, IF YOU PREFER ☐ 2 YEARS FOR $3* OR ☐ 1 YEAR FOR $2*

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FEWER REJECTS Aluminum barrels are satin-smooth, highly polished. They cannot splinter to snag threads . . . won't rust to stain fabric. Provide better weaves.

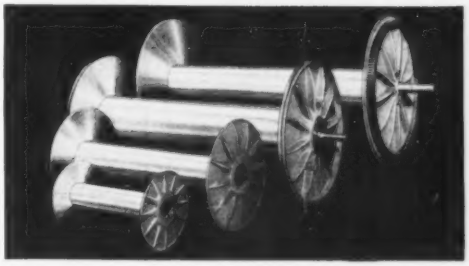
TRUE RUNNING Hayes replacement barrels are accurately machined to run within .010 total indicator reading in relation to the shaft, producing fabric with more uni-

LESS MAINTENANCE Hayes lightmetal barrels require a minimum of maintenance. Aluminum never requires painting, greasing, sanding or rust removal.

NEW SHAFT Hayes barrels are equipped with new shafts . . . ready for instant installation.

INTERCHANGEABLE Hayes aluminum barrels are fully interchangeable with your old wooden barrel. You can obtain Hayes replacement barrels in any desired length.

Write for full information, prices and Catalog 1-21. Please give exact dimensions required.



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LOWELL
BLEACH
COTTON

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Wilmington, Delaware

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. . .

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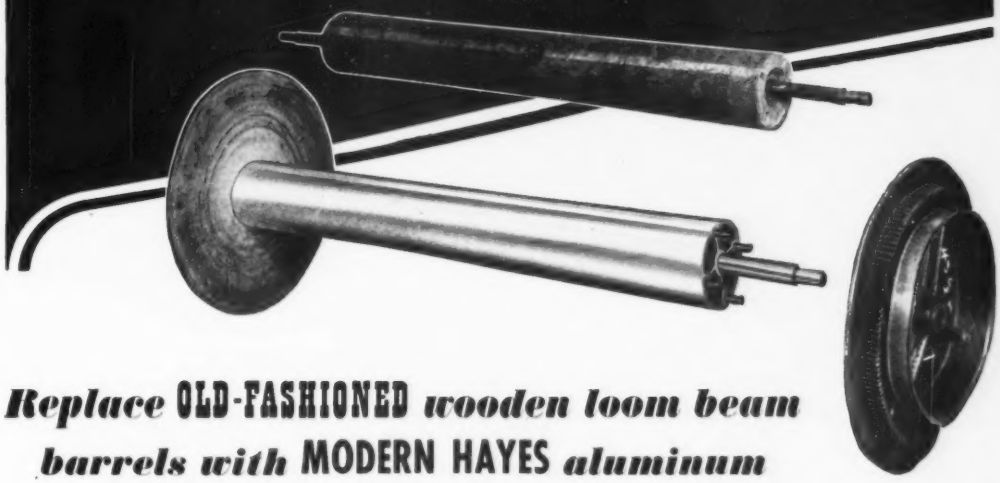
BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

Put PROFIT in your POCKET



Replace OLD-FASHIONED wooden loom beam barrels with MODERN HAYES aluminum replacement loom beam barrels

Lower production costs and better fabrics will be obtained with Hayes aluminum loom beam replacement barrels. These benefits help maintain a proper profit margin . . . here are six reasons why:

30% LIGHTER Hayes lightmetal loom beam barrels are 30% lighter than conventional wooden ones. This lowers machine loads . . . means faster, easier handling . . . reduces shipping costs.

FEWER REJECTS Aluminum barrels are satin-smooth, highly polished. They cannot splinter to snag threads . . . won't rust to stain fabric. Provide better weaves.

TRUE RUNNING Hayes replacement barrels are accurately machined to run within .010 total indicator reading in relation to the shaft, producing fabric with more uniform picks per inch. Sagging troubles are eliminated with the use of Hayes lightweight replacement barrels.

LESS MAINTENANCE Hayes lightmetal barrels require a minimum of maintenance. Aluminum never requires painting, greasing, sanding or rust removal.

NEW SHAFT Hayes barrels are equipped with new shafts . . . ready for instant installation.

INTERCHANGEABLE Hayes aluminum barrels are fully interchangeable with your old wooden barrel. You can obtain Hayes replacement barrels in any desired length.

Write for full information, prices and Catalog 1-21. Please give exact dimensions required.

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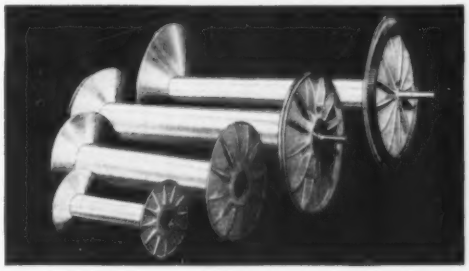
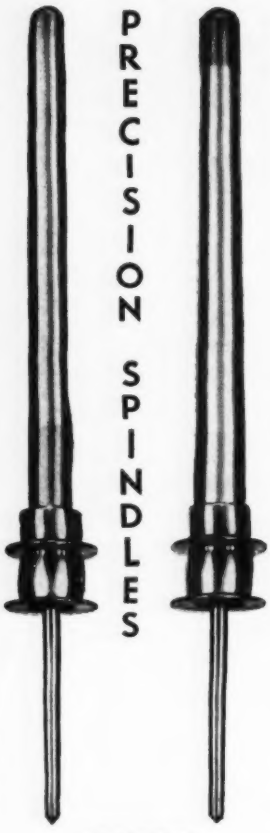


Light metals for modern textile production . . . LOOM BEAMS • SECTION BEAMS • TRICOT BEAMS • REPLACEMENT BARRELS

REDUCE YOUR COSTS

PRECISION SPINDLES



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ALUMINUM SPINDLE ADAPTERS
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CONVERT TO A LARGER PACKAGE ON YOUR PRESENT SPINDLES WITH LESS ENDS DOWN AND BETTER SPOOLING WITH THE TAPERED OR THE PARALLEL PAPER TUBES.

COMPARE THE RESULTS ON ONE FRAME

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H. S. Parker, Jr., Southern Rep.

with acetate dyestuffs or with cotton dyestuffs. It can be raw-stock dyed readily.

Two-tone effects can be obtained when Celcos is blended in a single yarn with acetate staple. Fabrics containing Celcos can be piece dyed and finished on conventional equipment. In instances in which the soft drape and full hand associated with fabrics made with acetate spun yarns are not wanted, resins and other finishes can be applied to Celcos yarns to provide crispness and body.

BLENDS WELL. Celcos in itself or in blends is said to be easy to wash, dry-clean and iron. It blends well with other commercial fibers. By itself or blended with other fibers, Celcos can easily be processed into yarns on standard types of carding and spinning equipment.

Yarns made from 100% Celcos fiber may be plied in combination with continuous filament or with other spun yarn. Various pattern effects, of the type usually confined to fancy weaves, are obtainable in fabric form through the various percentages of yarns and blends of the new fiber.

For the present, according to Mr. Price, production is limited until further tests have been run in selected mills. J. P. Stevens & Co., Inc., and Deering, Milliken & Co., Inc., are among those known to be experimenting with various blends of the fiber in anticipation of their early commercialization.

Celcos will be sold in staple, yarn, and fabric forms. At present, staple is offered from 2 to 5.5 den. per fil. only. It is priced at 42¢ per lb. The yarn form may run from 83¢ to $1.20 per lb., depending on size and ply.

Mill Maintenance

Double-Acting Pumps Will Give Long Life

Long life and little wear can usually be expected from double-acting air-compressor pumps. But the pumps must be taken care of.

Sooner or later, pistons, piston rings, piston rods, and cylinder walls will wear; they must be repaired or replaced. Proper maintenance, of course, will increase the useful life of these parts.

Dirty air or faulty lubrication are common causes of excessive cylinder wear, according to information given by Joy Mfg. Co.

Good air filters should be used, and a regular schedule of inspecting and cleaning them should be followed. The passages for the water coolant should be cleaned regularly, the cleaning cycle being timed to suit the water used and the foreign matter deposited.

In the majority of cases, lubrication is done by an automatic force-feed lubricator. A constant supply of oil is provided, but the amount delivered depends on the feed adjustment.

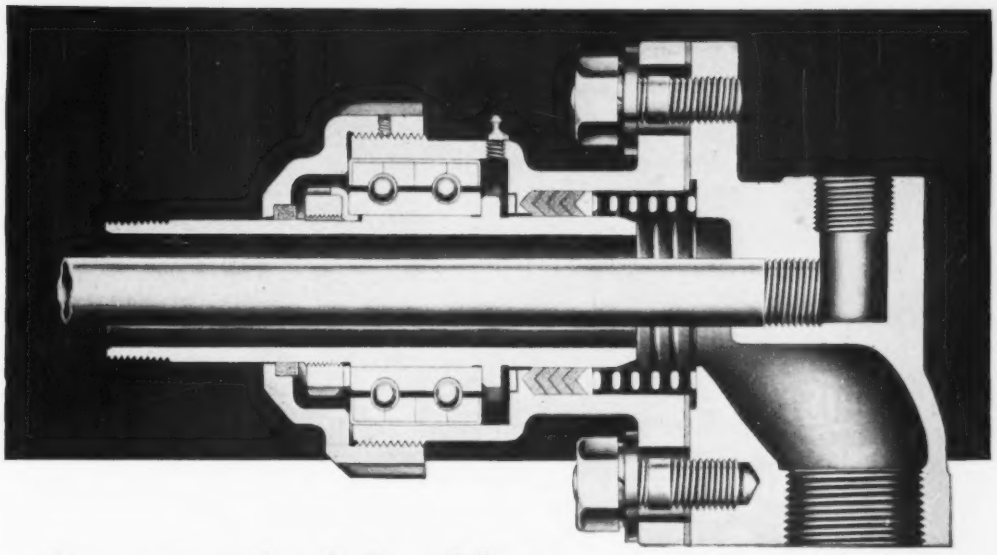
Three things may cause lubricating troubles: (1) improper adjustment of the amount delivered, (2) failure to keep the lubricator filled, and (3) mechanical failure of the lubricator. Either of these faults will cause air-cylinder wear. In extreme cases, the cylinder will become scored so that it must be discarded.

Heat, of course, has a bad effect on the lubricant. If too little cooling water is used, or if foreign matter collects in the water passages, heat will be generated. In this case, the normal supply of lubricant will not protect the cylinder against wear.

Another source of heat is broken valves. If the compressor is run with broken valves, heat will be generated in the air. This heat also will affect the lubricant.

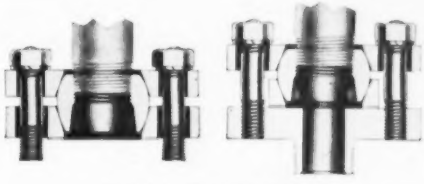
Preventive maintenance is the best way to keep down air-cylinder trouble. The following precautions will help keep the cylinder operating:

1. Use high-quality air filters and keep them serviced.
2. Use a good grade of air-cylinder oil, and keep it clean.
3. Check the sight feed of the lubricator regularly.
4. Inspect air-cylinder valves regularly, and replace cracked or worn valves at once.
5. Keep the water passages clean.
6. Adjust piston-rod packing carefully so that it will not gouge or score the rod.
7. Replace piston rings when they become worn.
8. Replace the pistons themselves if necessary.
9. If the cylinder is worn, put on a new slip-fit cylinder liner.
10. Keep supply parts such as piston-rod packing, lubricator-pump assembly, lubricator check valve, and piston rings on hand at all times.



Stays on the job with a minimum of maintenance

The BARCO REVOLVING JOINT



BARCO BALL FLANGE

Cross-section view of Barco Ball Flange for use on threaded and flanged rolls and for correcting roll misalignment. Sleeve can rotate concentric even though threads on roll are tapped off center.

For the Textile Industry

Textile weaving and finishing plants have found Barco highly successful in lowering maintenance time and costs. This special revolving joint is used on all types of rotating applications, including slashers, calenders, sanforizers and dry cans. Barco minimizes steam leaks and its lower turning torque reduces power costs.

For more particulars about this and other Barco Flexible Joints for the textile industry, write Barco Manufacturing Co., 1834 Winnemac Avenue, Chicago 40, Illinois.

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Not just a swivel joint ...but a combination of a swivel and ball joint with rotary motion and responsive movement through every angle.

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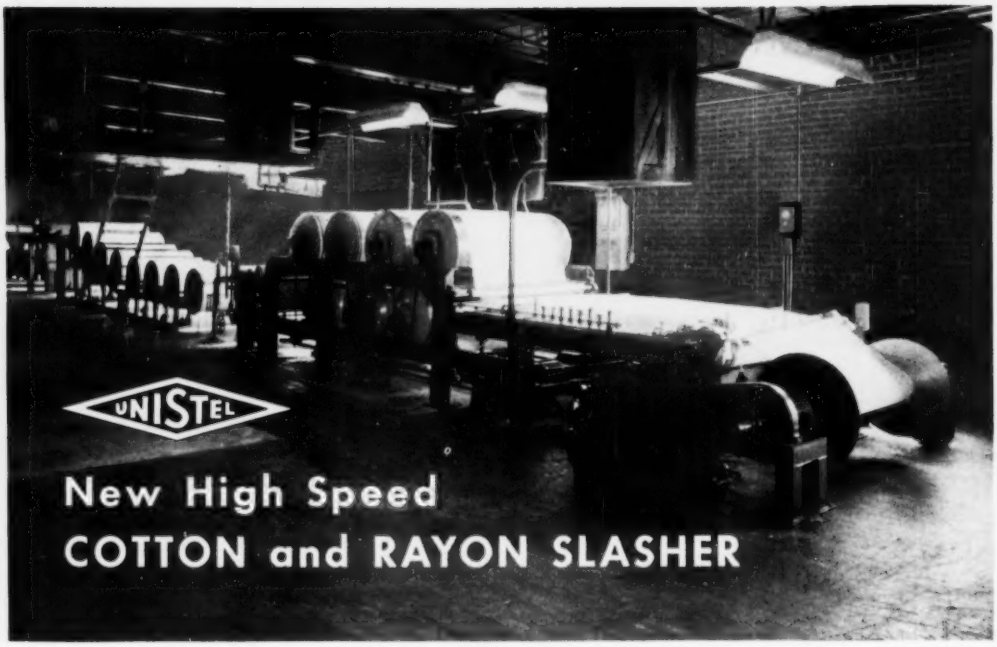

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BUENSOD-STACEY, INC.

Announces a New Portable Electric Humidity and Temperature Indicator for quick testing of Humidity and Temperature

The Buensod-Stacey Portable Electric Humidity and Temperature Indicator was developed to meet the demand for quickly and simultaneously taking direct readings at any point in the mill of percentage of relative humidity and temperature in degrees Fahrenheit. Price $250 plus transportation and sales taxes. **Available immediately.**

THE BUENSOD-STACEY ADJUSTABLE INTERMITTENT HUMIDITY CONTROLLER insures extremely close control of relative humidity without the objectionable atomizer-head "wet-down" that is sometimes encountered. This "wet-down" is eliminated by the adjustable and intermittent features of the CONTROLLER which regulates the cycle of atomizer-head operation without interfering with their use in obtaining the desired relative humidity conditions. The adjustment extends through a wide range and is therefore suitable for a variety of applications.

A view showing the Buensod-Stacey Adjustable Intermittent Humidity Controller in the #6 Weave Room of the Hathaway Manufacturing Co., New Bedford, Mass. which room has 8 Controllers in operation.

P. L. Davidson & Associates, Textile Consulting Engineers, Buensod-Stacey, Inc., Installing Engineers.

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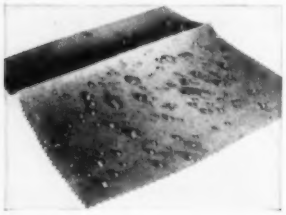
Silicone News

DC SILICONES

We've done something about the weather!

We can't plug up the clouds but we can give you the millions of invisible unbrellas that come packed in a pound of the new and durable water repellent, DeCetex 104. These silicone umbrellas are submicroscopic but you can see their mass hatred for rain in the picture below. They roll rain up into droplets that are shed like water from a duck's back.



The remarkable water repellency of DeCetex 104 treated nylon is indicated by the fact that water stands in almost perfect spheres on the fabric.

This is the water repellent treatment for nylon and acetate fabrics that research chemists have been working for years to find. It permits the fabric to breathe and it is durable to dry cleaning and laundering. Fabrics treated with DeCetex 104 require no washing or neutralization to remove residual chemicals. They are odorless and have a soft, smooth full hand with no apparent increase in mark-off.

DeCetex 104 is especially effective on nylon fabrics which are normally difficult to make water repellent. DeCetex 104 treated nylon, for example, retains its high initial resistance to wetting even after 12 dry cleanings or two 2-hour washings.

DeCetex 104 can easily be emulsified and applied with conventional finishing and resin curing equipment. Cost is comparable to that of other high quality water repellent treatments. For more information about DeCetex 104, phone our nearest branch office or write for data sheet No. K2CD6.

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Dow Corning

FIRST IN SILICONES

Dyes & Chemicals

Coating Organosol Has Desirable Properties

A new base white organosol for textile coatings has been developed by the Watson-Standard Co., 225 Galveston Ave., Pittsburgh, Pa. Called Watson-Standard 11-174A, the new coating is a high-solids vinyl-organosol type which provides an easily handled daub for the coater.

Watson-Standard 11-174A furnishes a textile coating said to be economical, to possess good "hand," excellent ultra-violet resistance. The coating can be printed over easily. This base white is exceptionally good for coating textiles in making plastic coated items. *(D-1)*

Soiled Test Fabrics Do Not Deteriorate

Standard PSC soiled cotton fabric prepared by Pennsylvania State College is available from Foster D. Snell, Inc., 29 West 15th St., New York 11, N. Y. The soiled fabrics are used as a measurement of detergency. The difficulty with standard soiled fabric that the soil became more firmly fixed and more difficult to remove with the passage of time has been eliminated in the new fabrics, it is claimed. Samples of the new fabric stored in the open air are said to have shown no significant change after ten years of storage.

After soiling, every piece is lightly washed to remove loosely adherent soil and read with the Hunter reflectometer. The reflectometer reading must agree with a reflectance of 27% within a tolerance of ±2%. Every tenth swatch is washed in an 8-step washing cycle with neutral soap and soda ash. To be acceptable, it must give a soil-removal efficiency in terms of brightness regained of 50 ±2.5% after five consecutive washes. The swatches are 5x12 in., conforming to a standard of the National Bureau of Standards as to desirable size, to permit four fold-overs for reading in the reflectometer. When prepared, the swatches are given consecutive numbers. The unit package for sale consists of nine consecutively numbered swatches; the tenth numbered swatch of that series was used for standardization. The price is $4.50 for a unit package; discounts are allowed on purchases of multiple packages of the soiled fabric. *(D-2)*

Softener Has Unusual Properties

A substantive softening agent in the form of a white paste said to possess unusual properties is being marketed by the Hart Products Corp., 1440 Broadway, New York, N. Y. Syntho-Softener B is claimed to assure a soft, full-bodied, velvety hand with maximum draping qualities to cotton, rayon, wool, and nylon fabrics. The product, it is stated, preserves the maximum light fastness of goods dyed with such colors as directs, rapidogens, indigosols, vats, and the like; mixes readily with resins, starches, gums, etc.; and is very inexpensive to use. Syntho-Softener B is said to avoid the troubles which usually occur in the use of cation-active softening agents in that it shows no effect on the shade of dyed goods, no yellowing of whites, no rancidity or deterioration on ageing, and no discoloration on pressing. Syntho-Softener B is readily soluble in hot water, forming solutions which are resistant to mild alkalies, acids, or hard water. *(D-3)*

Wetting Agent Has Rewetting Properties

Surfax 1288, the first in a new series of surface-active agents, has been developed by E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa. The new product is a wetting agent which also has excellent rewetting properties; it has no marked detergent properties. It is said to be economical in application as it is effective in extremely low concentrations.

The new wetting agent is reddish-amber in color and is water-soluble at all working concentrations. Where stock solutions are employed, a mixture of one part of Surfax 1288 to four parts of water is recommended.

Another characteristic is the agent's excellent dispersing and retarding properties which make it especially desirable as a leveling agent for dye baths.

Chemically classified as an aroyl sulfo propionate, Surfax 1288 is anionic and performs best in neutral or mildly alkaline solutions at any temperature. The agent can be used in acid solutions above pH 5 at room temperatures, but tests have shown that its wetting properties are lost in

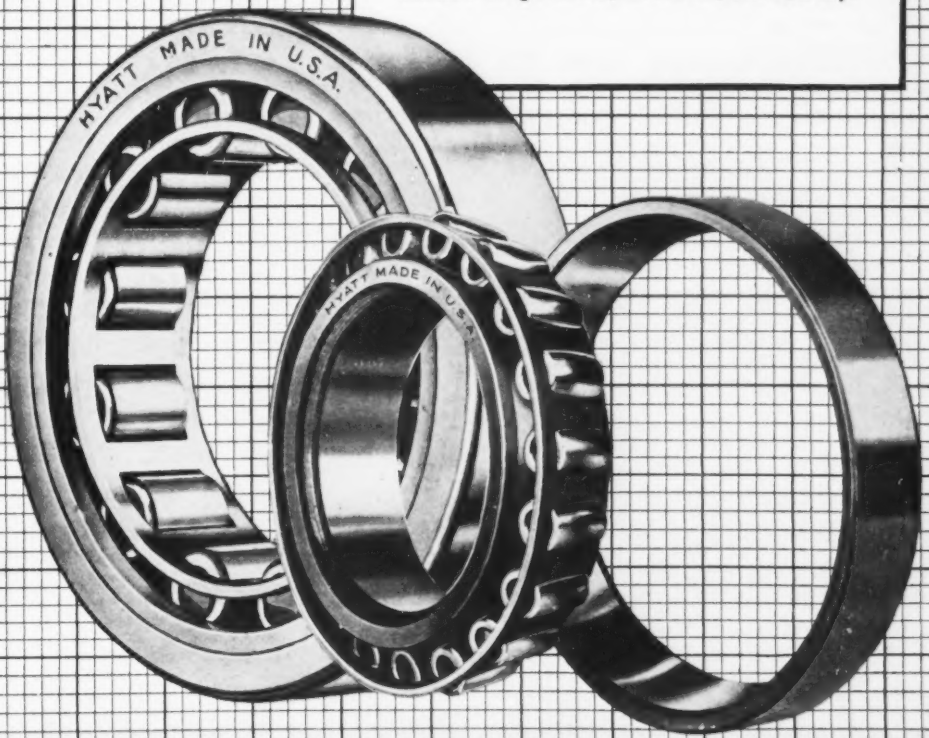
BUILT FIRST . . . TO LAST

From the very *first* to the millions now produced annually Hyatt Roller Bearings have been built to *last*.

And the leading equipment manufacturers, recognizing this fact, build Hyatt Roller Bearings into the vital working parts of their machines.

They know that Hyatts improve the performance and extend the life of looms, preparatory and finishing machinery.

Specify Hyatts for more economical operation and the freedom from maintenance they assure. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.



HYATT ROLLER BEARINGS

A Report on Air Conditioning *Your Plant* could make

THIS REPORT summarizes the experience of the growing number of progressive hosiery and other textile mills who are benefitting from York-equipped central station installations.

Whatever your specific needs in air conditioning, you'll find a York engineer who understands your particular problem. He is equipped with up-to-the-minute facts and data that will be useful in your planning, and helpful to your plant engineer, consultant or mechanical contractor.

York Corporation, York, Pennsylvania.

Here are the observations of a hosiery manufacturer, after a year of operation of a York-equipped air conditioning system.*
COMFORTABLE WORKING CONDITIONS DECREASE ABSENTEEISM
22 PERCENT INCREASED PRODUCTION IN SUMMER MONTHS
FEWER MACHINE ADJUSTMENTS
35 PERCENT FEWER REJECTS AND SECONDS
LESS VARIATION IN STOCKING LENGTH
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25 PERCENT LESS MENDING
ELIMINATION OF PRODUCTION UP-AND-DOWNS
"THIS INSTALLATION WILL PAY FOR ITSELF WITHIN 5 YEARS"

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Refrigeration and Air Conditioning

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of Looms, Cards and other Textile Equipment

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MANY leading textile plant engineers agree that for dependable, economical lubrication of plant equipment, LUNKENHEIMER Bottle Oilers give improved service. Feeding oil only when required and without dripping or splashing, these oilers assure proper lubrication even on hard-to-reach, commonly-neglected bearings. Mills equipped with LUNKENHEIMER Oilers report six important advantages: *Oil, time* and *labor* are saved; *breakdowns* are minimized; *bearings* are protected; and *spoilage*, due to excessive oiling is eliminated.

Investigate the profit possibilities of equipping your plant with LUNKENHEIMER Bottle Oilers. We'll gladly tell you where you may see these modern lubrication devices in service. Write for Circular No. 560.

LUNKENHEIMER DISTRIBUTORS are well qualified to help you with your lubrication problems and can supply these and other Lunkenheimer lubricating devices to meet your individual requirements.

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ALVOR CONSTANT LEVEL OIL CONTROL

Automatically maintains a constant oil level in reservoir of ring oiled bearings. Operates on liquid seal principle. Feeds only when oil level in bearing is low enough to break the liquid seal at end of shank, permitting air to enter the bottle. Provides visible oil supply.

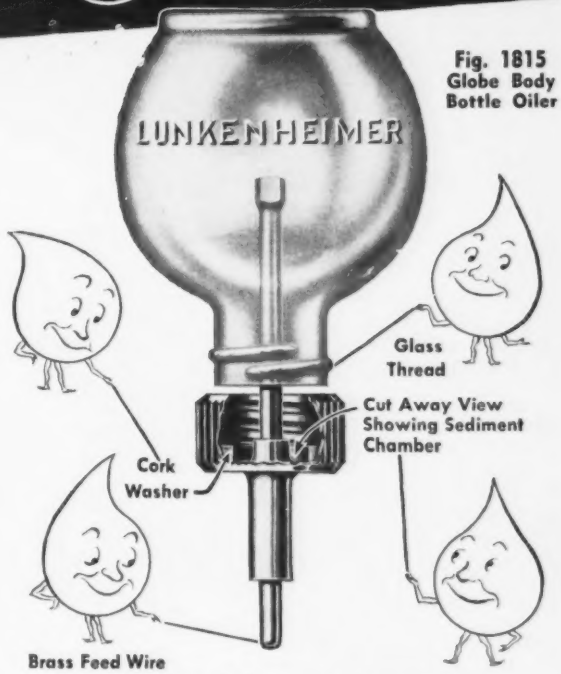
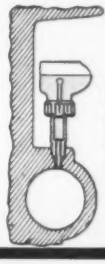


Fig. 1815 Globe Body Bottle Oiler

LUNKENHEIMER BOTTLE OILERS are entirely automatic in operation. They feed the right amount of oil, in the right way, to the right place, and only when the shaft is in motion. Oil wastage and time lost incident to hand oiling are eliminated.



No. 2 Fig 1816 Flat Side Shallow Body Oiler

No. 3 Fig 1816 Flat Side Body Oiler

For use where space does not permit installation of Globe Body Oiler.

WOUND-
FORM
DYEING
of All
SYNTHETIC
YARNS

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Yarns taken from cones, tubes, or cheeses direct to Atlantic dyestubes.

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mineral acid and caustic solutions at boiling temperatures.

Application tests are said to have shown that Surfax 1288 may be used effectively in many types of wet processing where an efficient wetting agent has been found to be advantageous. Possible uses include compressive shrinkage (Sanforized fabrics); wetting out and dyeing hosiery, cotton, wool, synthetic yarns, and all types of knit and woolen piece goods. Another textile application is in package dyeing. *(D-4)*

For further information concerning any of the foregoing products use the card on page C in the Reader-Service department. Refer to number at the end of each item.

Book Reviews

Industrial Harmony Is Seen as Possible

PARTNERS IN PRODUCTION: A BASIS FOR LABOR-MANAGEMENT UNDERSTANDING, by the labor committee of the Twentieth Century Fund, assisted by Osgood Nichols; Twentieth Century Fund, 330 West 42nd St., New York 18, N. Y.; 149 pages, cloth, $1.50.

This report may well serve as a guidepost to mark the opening of a new era in labor relations in the United States. Forces building up to the change have been at work a long time. In essence, the new approach is an attempt to get away from the philosophy of "conflict" and look at management and labor as human beings. Deep-down, what are the fundamental goals of each side? What does the individual, the worker, want? What is the individual, the manager, trying to accomplish?

The authors of this statement are no mere starry-eyed idealists. They include one of the country's ablest industrialists, representatives of the two labor organizations, two economists, a publisher, a former president of the National Association of Manufacturers, and a former chairman of the National War Labor Board.

The committee lists the four major goals of labor as (1) a sense of security, (2) an opportunity to advance, (3) more humane treatment in matters affecting labor's welfare, and (4) a sense of dignity on the job. On the management side, the four fundamental goals are seen as (1) good business and economic health for the company, (2) good relations with its employees, (3) freedom to manage without interference, and (4) businesslike relationships and more responsibility on the part of employees and unions in observance of agreements and contracts.

The seemingly conflicting goals are then considered in three categories: goals that are mutual, goals of seeming conflict but potential cooperation, and goals of real conflict but potential compromise. The text contains many case-history examples of individual reactions to actual experiences in industrial plants. The authors analyze these experiences to see what can be done to bring about mutual understanding in each case.

What is enheartening about this book is that there exists in the United States a basic desire for mutual understanding between labor and management. The will to work things out amicably will in the end through intelligent compromise help break down the walls of distrust still existing, the committee holds.

Silk and Its Place In World Civilizations

THE STORY OF SILK, by William F. Leggett; Lifetime Editions, Inc., 435 East 24th St., New York 10, N. Y.; 361 pages, $5.

This book is a history of silk and silk lace, a romantically told story of the progress of the fiber and its culture and processing throughout recorded history. The tale starts in China, somewhere around 3,000 B. C., and gradually works its way westward with the rise and fall of civilizations. It ends on the shores of colonial Virginia and in modern New York.

This well-documented description of the past importance of silk to the world is done in a way that should appeal to the layman as well as to the expert. Unfortunately, in one of two spots there is evidence of hurried editing of foreign names and historical dates. A foreword by Daniel Douty, chairman of United States Testing Co., sketches the progress of scientific testing of raw silk and yarn in the United States. The inclusion of a 12-page glossary of silk terms in general use and a 3-page bibliography add greatly to the book's value as a silk reference source.

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Today, many plants throughout the United States have eliminated valve trouble by standardizing on Powell Valves. That's because, in designing *every* valve in the complete Powell Line, maximum performance at a minimum cost of maintenance has been a prime consideration. Also, because there's a Powell Valve specifically adapted to every known flow control requirement, failures due to misapplication are avoided.

So, whether you're making a new installation or need replacements, be sure to specify Powell Valves. And remember Powell Engineering Service is always at your disposal in selecting the correct valves to meet your individual requirements.

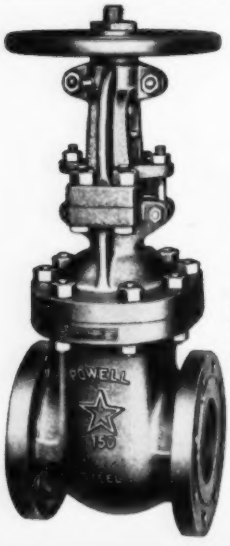

Fig. 1503—Class 150-pound Cast Steel Gate Valve with flanged ends, bolted flanged yoke, outside screw rising stem, tapered solid wedge.

Fig. 1708 — 200-pound Bronze Globe Valve with renewable stainless steel seat and regrindable, renewable "Powellium" nickel-bronze disc.

Bellows Sealed "Y" Valve. Powell's Bellows Sealed Valves—Globe and "Y" patterns—are designed for high vacuum service and for installations where packing is unsatisfactory or fails frequently. The bellows is enclosed within the valve body, completely sealing the interior of the valve from the outside atmosphere. Available in 18-8S, 18-8S Mo., Monel Metal, Hastelloy, in sizes ¼" to 12", inclusive.

Fig. 1793 — Large 125-pound Iron Body Bronze Mounted Gate Valve. Made in sizes 2" to 30", incl. Has outside screw rising stem, bolted flanged yoke, tapered solid wedge.

Powell Valves are made in Bronze, Iron, Steel and a wide selection of Corrosion-Resistant metals and alloys. Valves of every type—Globe, Angle, Gate, Check, Non-return and Flush Bottom Tank Valves—are included in the Complete Powell Line.

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The magnitude and variety of exhibits will completely surpass all previous Exhibitions. Space does not permit us to give names of the many firms who are exhibiting. Practically all the world famous firms in the various spheres of the industry will be represented and their exhibits will prove of considerable interest.

For further information respecting the Exhibition please address all correspondence to:—

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Hard, smooth, durable Dary Ring Travelers last longer, give finer performance. Ask to see your Dary representative.

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News of the month

Discusses Wool Shrinkage. Calendering to width has been found to increase subsequent width shrinkage and to decrease length shrinkage on both flat- and rib-knit fabrics, according to Louis I. Weiner of the Philadelphia QM Depot Textile Research Laboratory who spoke before the members of the Underwear Institute at their annual meeting in Philadelphia. A fabric shrunk widthwise is usually preferable to one shrunk lengthwise. Width shrinkage may add desirable fullness and snugness to the garment when worn, whereas length shrinkage is not so elastic. A stabilized length shrinkage can be obtained either by not calendering to width and increasing the yarn size to add fullness, or by going to a finer knitting gage, finer yarn, and more courses per inch. The latter method is preferable, the speaker held. Howard Collier, president Griffin Knitting Mills was elected chairman of executive committee of the Underwear Institute, succeeding Lyndall F. Carter. Roy A. Cheney was reelected as president, and Earl West secretary.

Ginning Problems Increasing. Unless a ginner can increase his volume of ginning as a result of improving his ginning service through installation of the drying, cleaning, and extracting machinery made necessary by machine-picked cotton, machinery improvements will increase total ginning costs by over 50¢ per bale on an annual volume of 2,000 bales. This picture was presented by Francis L. Gerdes, head of the Stoneville laboratory in the Research and Testing Div. of the Dept. of Agriculture, at the annual meeting of the Tennessee Cotton Ginners' Assn. Centralization of the ginning industry is going on now, he said, in the search for greater volume to bear the new machinery expenditure.

New Moire Process. The "Holterhoff process" is of importance in the moire industry, said Hans Holterhoff of Newburgh Moire Co., Inc., in a paper presented before the American Association of Textile Technologists recently. The new process not only eliminates the two-color effect unavoidable in scratch moires, but has proved almost unaffected by the nature of the cloth, and could be applied successfully on such new fabrics as iridescent taffetas, tissue failles, and crepes, thus opening up larger fields to the industry.

Winding Synthetics. It is important with synthetic yarns to maintain the tension at a uniform level when winding, H. W. Ball, chief engineer of Foster Machine Co. said at the spring meeting of the American Society of Mechanical Engineers in New London, Conn. There are two basic systems available. They are the surface-driven and spindle-driven units. The surface-driven unit is best on staple yarns, while the spindle-driven unit is most satisfactory for continuous filament synthetic yarns such as rayon and nylon. In addition, there are two basic constant-speed problems. They are winding from a free supply and taking up the yarn from a constant-

Textile Calendar

Philadelphia Textile Institute Alumni Association, 48th annual outing, Oreland, Pa., June 3, 1949.

Textile Wet Processing Equipment & Supplies Exposition, 71st Regiment Armory, New York, N. Y., June 6 to 10, 1949.

STA, annual meeting, Mayview Manor, Blowing Rock, N. C., June 16 to 18, 1949.

Philadelphia Textile Manufacturers Association, annual outing, Cedarbrook Country Club, Philadelphia, Pa., June 24.

AATCC, Piedmont Sect., Ocean Forest Hotel, Myrtle Beach, S. C., June 24 to 26, 1949.

American Society for Testing Materials, annual meeting, Atlantic City, N. J., June 27 to July 1, 1949.

Beltwide Cotton Mechanization Conference, Bennettsville, S. C., Aug. 17 to 19, 1949.

NACM, 95th annual meeting, Marshall House, York Harbor, Maine, Sept. 22 and 23, 1949.

American Society for Testing Materials, first West Coast meeting, Fairmont Hotel, San Francisco, Calif., Oct. 10 to 14, 1949.

Textile Machinery Exhibition, Manchester, England, Oct. 12 to 22, 1949.

American Association of Textile Chemists & Colorists, annual meeting, Chalfonte-Haddon Hall, Atlantic City, N. J., Oct. 13 to 15, 1949.

Cotton-Textile Institute, annual meeting, New York, Nov. 3, 1949.

AATCC, Piedmont Sect., Charlotte Hotel, Charlotte, N. C., Nov. 5, 1949.

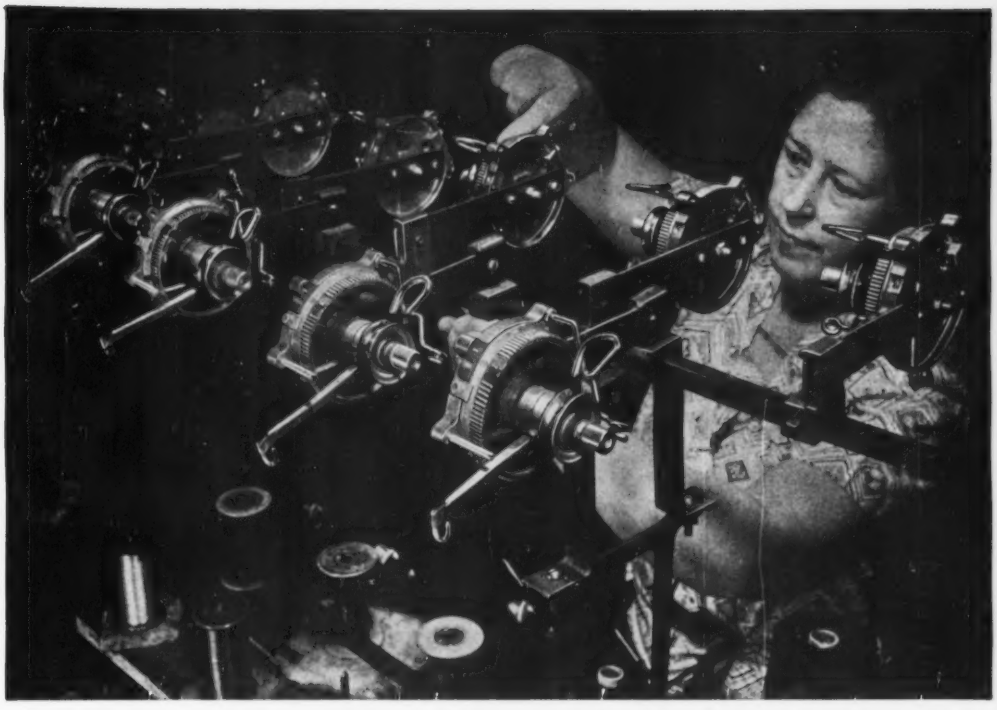
Underwear Institute and National Knitted Outerwear Association, joint underwear and outerwear suppliers' exhibition, New York, spring of 1950.

ACMA, annual convention, Biltmore Hotel, Palm Beach, Fla., March 30 to April 1, 1950.

Carpet Institute, Carpet Fashion Opening, New York, April 17 to 27, 1950.

American Textile Machinery Exhibition (and Allied Industries) sponsored by National Association of Textile Machinery Manufacturers, Atlantic City, Auditorium, Atlantic City, N. J., May 8 to 12, 1950.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 2 to 7, 1950.



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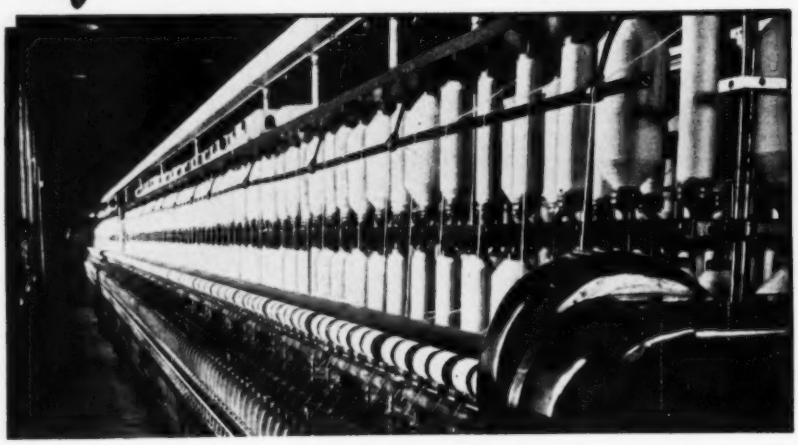

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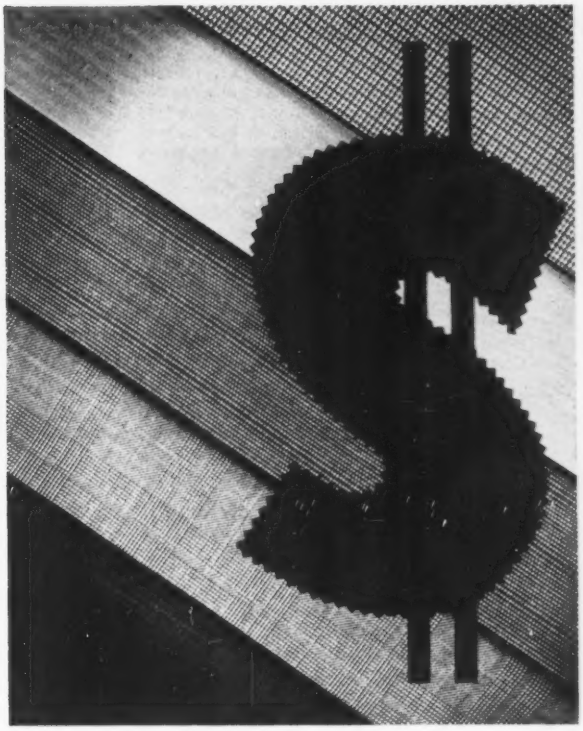

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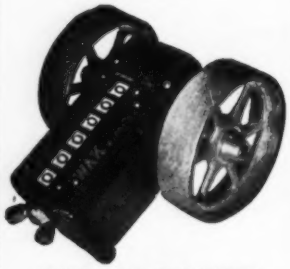

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speed source. In winding from a free supply, one cannot use the yarn for controlling, and hence must provide some outside variable-speed source which is controlled by the package size or is set to vary the speed according to a definite time cycle. On the other hand, in taking up from a constant speed source on a spindle-driven machine, there is available the system of using a torque motor, a motor controlled by a dancer roll, a slip spindle, a hydraulic motor, or any system that will allow a slippage to take care of variations in constant yarn speed from the supply.

Lubrication Discussions. More original research in lubrication along high-temperature lines was called for by Frank Ross, E. F. Houghton & Co., at a recent meeting of the American Society of Lubrication Engineers in San Francisco. Mr. Ross pointed out that with increasing temperatures in industrial applications "it is necessary to produce lubricants capable of retaining their original characteristics under various operating temperatures." In a New York meeting of the same society, William A. Newell, managing editor of TEXTILE WORLD, reviewed developments in centralized lubrication in the textile industry.

For Further Cotton Research. Federal legislation looking to the establishment of a National Science Foundation was supported by the National Cotton Council recently. The council's statement noted that while the Research and Marketing Act of 1946 is proving valuable in easing cotton problems, it is by no means doing all that needs to be done. A national foundation would encourage basic research as a means of gaining the further understanding of nature and its laws that is essential to progress.

Apprenticeship Program Urged. The employment of full-time supervisors for apprenticeship programs was urged upon industry in the South by William F. Patterson, director of the Bureau of Apprenticeship in the U. S. Dept. of Labor, in recent addresses in New Orleans. "If we are to have competent craftsmen, the men industry needs, then we must have high-grade, functioning apprenticeship programs," he said. In such a manner will the South develop the adequate skilled workers it must have for continuing its present industrial growth.

Synthetic Detergents. Continued growth of synthetic detergents, can be expected in the chemical industry,

DEAN RICHARD S. COX (left) of Philadelphia Textile Institute, and Mrs. Cox are presented with a television set by Theodore B. Hayward, vice president of PTI Foundation, at a recent dinner honoring Dean Cox on the fiftieth anniversary of his association with the institute.

said Dr. James H. Boyd, consulting chemical engineer, before a recent meeting of the Synthetic Organic Chemical Manufacturers Assn. Many changes in the production and use of industrially important chemicals, including nylon intermediates and formaldehyde, are being forced by economic conditions. In general, the trend is toward increasing usefulness of petroleum derivatives in other branches of the chemical industry, according to Dr. Boyd.

ITT Shows Developments. Two new textile machines developed by the Institute of Textile Technology were announced at the recent Second Annual Executives' Conference at ITT in Charlottesville, Va. [T. W. May, 1949, pp. 154 and 156] In addition, many projects were revealed to be under development. Work is being done on fibers, starches, spinning speeds, slashing, drying, finishing, ultrasonics, and other new machines. A report, *The First Five Years*, summarizing developments to date has been sent to ITT members. It embraces the educational program as well as research and development.

Hosiery Potential Is Good. A considerable potential market for women's hosiery exists, even if the per capita consumption has not increased over what it was prior to the recent war, stated Earl Constantine, president of the National Association of Hosiery Manufacturers, in his annual report to the group in Atlantic City. In 1940, total shipments of women's

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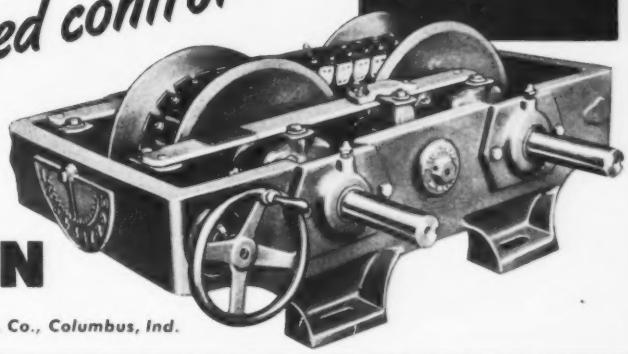

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full-length hosiery exceeded 58,600,000 dozen pairs, while in 1948 the total was only about 51,400,000 dozen pairs, in spite of an increase of about 15,000,000 in the population.

Standard Revised. A revision of hosiery lengths and sizes has been approved by the Commodity Standards Division of the National Bureau of Standards, and will be effective June 22, 1949. It will be known as CS46-49 (Fourth Edition). The original standard was issued in 1933 and revised in 1936 and 1940. Men's athletic socks, men's crew socks, men's and boy's slack socks, and men's, women's and children's hosiery are included.

Minimum Wage Rate. A minimum wage of $1.05 an hour in the woolen and worsted mills for work performed under the Walsh-Healy Public Contracts Act became effective May 14. Secretary of Labor Tobin, who ordered the establishment of the minimum, said that "among the workers whose wages will be increased are some employed in abnormally low-wage establishments. Such firms are potential bidders, and requiring them to raise wages on government work only to the rate found to be prevailing for the industry is the main reason for the passage of the Public Contracts Act."

N. C. State Expands. Expansion of floor space up to 80% and costing more than $600,000 is underway at North Carolina State College School of Textiles, declared Dean Malcolm E. Campbell in an address before the Eastern Carolina Division of the Southern Textile Association meeting at Raleigh, N. C. Dean Campbell welcomed the meeting of mill men as evidence of close cooperation between the school and practical mill men and of the mutual help that has lead the manufacturers of North Carolina into a foremost position in the industry.

Wool-Carding Course. A three-week course in woolen carding will be conducted at Lowell Textile Institute from June 6 to 24 by the engineering society of the school and under the sponsorship of Davis & Furber Machine Co. Prof. Russell L. Brown, head of the Institute's Wool Department, will supervise the program, which includes formal lectures, informal discussion group, plant visits, and speakers from industry to supplement the lecture material. Enrollment has been limited to 50.

Deans to Visit England. British textile institutions will be studied by

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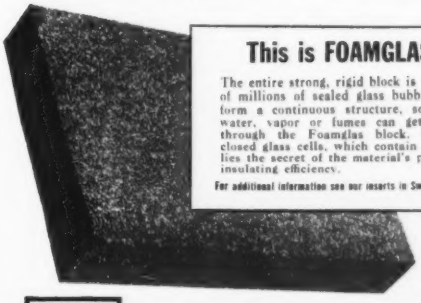

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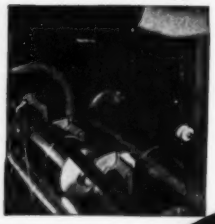

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THIRD UNIT of a $2,000,000 building program at Lowell Textile Institute, Lowell, Mass., is launched as President Kenneth R. Fox helps to lay the cornerstone of the Alumni Memorial Library. The building is to be dedicated to veterans of both World Wars. In the background is A. Edwin Wells, alumni secretary. On the same occasion—the fiftieth reunion of the alumni association—two large dormitories, the first units of the program completed, were dedicated. One is in honor of Founder James T. Smith; the other, the late President Charles H. Eames. Greeted with approval by the assembled alumni were further steps in the extensive improvement program that President Fox has fostered. These include extension of the curriculum to embrace the social sciences and humanities, recent acceptance to membership in the New England Association of Colleges and Secondary Schools, tightening of entrance requirements by adoption of College Board examinations, establishment of a cooperative summer-employment plan, enlargement of offices and laboratories, installation of new textile machinery and related equipment worth $300,000, and renovation of old buildings and power plant.

deans of ten American textile institutes next October at the time of their next meeting in Manchester, England. They have been invited to hold their session in England by the British Cotton Exchange, and will be received by Sir Raymond Streat.

Frenchmen Impressed. Five characteristics of American textile mills seem to have impressed a group of 18 French cotton mill men who spent a month in the United States recently: (1) humidification and lighting, (2) engineering approach to the development of proper work loads, (3) skillful training of operatives, (4) planning of use of materials and control of quality, and (5) human relations. Spokesmen for the group were Philippe Rembry, manager of the Ducarin mills at Comines; Dr. André Gros, personnel manager of the Laederich mills at Epinal; and Raymond Thiébaut, consulting textile engineer representing the French government. Ralph Hodara and N. M. Mitchell of Barnes Textile Associates led the tour to plants in both the North and South.

German Hosiery. Two million dollars worth of finer-gage American hosiery machines are being exported to Germany which is paying for them with dollars earned by German exports. Within a year, the Germans may be producing over a quarter of a million pairs annually on new machines of their own make. These new German-made machines are said to double the production of pre-war models. Perlon, a German-developed fiber similar to nylon, will be used in increasing the production of the sheerer types.

ECA Cotton. About 2,157,000 bales of American cotton went to Europe under the first year of the Marshall Plan, ECA records revealed recently. They were purchased in varying amounts of ten countries.

Loans to Italian Mills. ECA loans for the purchase of American textile machinery by Italian mills have been granted to the following companies: De Angeli Frua, $1,500,000; Magnoni e Tedeschi, $250,000; Societa Bernardo Caprotti, $660,000; Manifattura Pastore, $55,000; Societa Fabbrica Italiana Seterie Affini, $1,000,000.

New Zealand Slashes Imports. Imports of cotton piece goods have been slashed by 50% by New Zealand. Imports from each country during 1948 will serve as quota basis. However, no licenses will be issued for imports from the United States and Japan. The U. S. and Japanese quota has been allotted to India.

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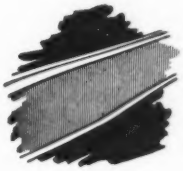

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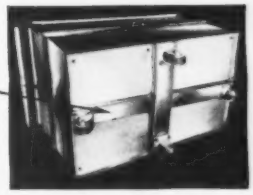

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NEWS ABOUT Suppliers

Manufacturing Suppliers

Allis-Chalmers has discontinued its adjustable threaded-plate sheaves in the larger sizes with the recommendation that vari-pitch sheaves be substituted. By so doing the company says it hopes to make certain that only the best type of sheave is selected for each specific use.

H. Brinton Co. has been appointed export agents for the new eight-feed, seamless interlock circular-knitting machine developed by the Textile Engineering Div. of Ordnance Gauge Co., Philadelphia. All foreign countries except Canada are included in the arrangement.

The Bullard Clark Co., has appointed Ralph M. Briggs, Jr., as service engineer for the Georgia - Alabama - Tennessee-Mississippi & Louisiana territory, succeeding W. D. "Chip" Clark, Jr., who recently resigned this position.

Carrier Corp. has developed a new refrigerating machine that employs steam for air-conditioning purposes, thereby providing a balance in steam loads for summer cooling and winter heating. Representing more than eight years of research and development, the new unit is an absorption machine which uses plain water as a refrigerant and a simple salt as an absorbent.

Comer-Whittier Shops, with executive and sales offices at 308 Ivy St. N.E., Atlanta, Ga., has been formed to specialize in the manufacture of cut-tooth roving gears. The concern will also manufacture bobbin, bobbin-shaft, spindle, and spindle-shaft gears.

Cutler-Hammer, Inc., in a move designed to meet more adequately the motor-control needs of textile manufacturers, has appointed M. R. Brice to the post of textile-industry specialist.

Draper Corp. will ship looms to Springs Cotton Mills at a 100-a-month rate beginning in October. The southern mill has ordered 14,000 of them, including X-2, XD, and XL models.

Firestone Industrial Products Co., has developed a new line of Contro elastic threads and yarn for use in woven and knitted elastic garments and supplies. The new yarn is said to provide uniformity of gage and covering, strength against aging, controlled elasticity, and adaptability.

HARMON B. RIEHL has been elected vice-president of Proctor & Schwartz, Inc. In his new position he will be in full charge of the textile machinery division. Since 1943 he has been chief engineer of this division. An employee of 34 years standing, he has served the company in the shops, in purchasing, and in the engineering and sales divisions.

M. W. Kellogg Co., has made Dr. W. E. Hanford a vice president. He is director of petroleum and chemical research for the firm.

Sanford Div. of Saco-Lowell Shops, Sanford, N. C., delivered its first shipment of combers to Dan River Mills at the end of April. April production quota called for 19 combers, May called for 18, while June has 24 scheduled. In addition to its combers, the Sanford plant is producing strippers and lapwinders. Employment is now near 300 men.

U. S. Bobbin & Shuttle Co., has made Jack Locke, former superintendent at Greenville, S. C., and later general manager of two southern plants, general superintendent of all the company plants.

Warner & Swasey Co. is ready to manufacture the

Acclaimed

This fine battery of Johnson sizers is in the Red Springs Division of Robbins Cloth Mills, Inc., at Red Springs, N. C.

BY LEADING MILLS EVERYWHERE

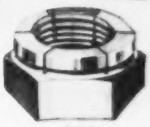
There are more Johnson Rayon Warp Sizers in use today than there are of all other makes combined.

JOHNSON
RAYON
WARP SIZER

Charles B. Johnson

PATERSON, NEW JERSEY

FLEXLOC



ONE-PIECE SELF-LOCKING NUTS

. . . WON'T SHAKE LOOSE
. . . REDUCE MAINTENANCE

Invariably, when nuts loosen, they cause shutdowns, loss of production, and bad tempers all around. All this can readily be eliminated by installing the one-piece, self-locking "FLEXLOC", because *it positively will not shake loose* and positively cuts cost of maintenance.

The all-metal, one-piece resilient "FLEXLOC" is becoming increasingly popular, because it is processed to have an exceptionally uniform torque and, because it packs a stop, lock and plain nut all in one. "FLEXLOC" accommodates itself to a wide range of thread tolerances and can be used over and over again without losing much of its torque. And, being a stop nut, it stays locked in any position on a threaded member. It is not affected by temperatures commonly met.

Available in "thin" and "regular" types—in sizes from #6 to 2" in diameter—in NC and NF thread series. Write for your copy of the "FLEXLOC" Catalog.

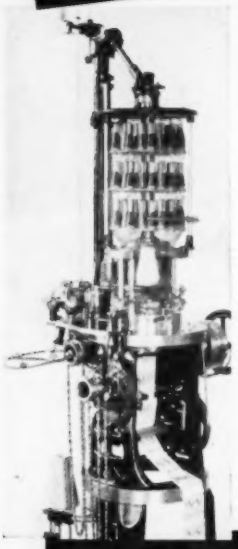
OVER 46 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.

JENKINTOWN, PENNSYLVANIA, BOX 571
CHICAGO • DETROIT • ST. LOUIS • SAN FRANCISCO

Now the NEW Improved FIDELITY MULTI-DESIGN RIBBER

Dependable • Time-tested • Versatile



WITH 120 Vertical and 5 Horizontal colors, the Fidelity Multi-Design Ribber offers the greatest development in a machine for producing True Ribbed Tops.

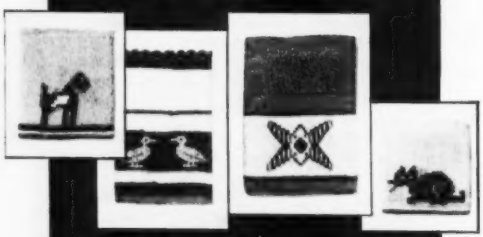
The unique 25 step pattern mechanism makes possible an endless number of color designs, limited only by the imagination of the designer . . . yet patterns can be changed with ease in a relatively short time.

Thousands of Fidelity Ribbers have given trouble-free service for over a quarter of a century and the soundness of their basic design is a proven fact.

This dependable, time-tested Ribber now brings to your plant a versatility of design that will mean better production, more sales and the means to meet competition.

For details fill in the coupon and clip it to your letterhead.

UNLIMITED PATTERN DESIGN



Just a few of the many intricate patterns available from the new 25 step Fidelity Multi-Design Ribber

FIDELITY MACHINE COMPANY, Inc.

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FIDELITY MACHINE COMPANY, INC.
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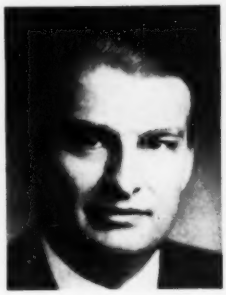
Please send me your illustrated brochure, "The Fidelity Multi-Design Ribber."

Company_____

Address_____

Name_____ Title

NEWS ABOUT *Suppliers*



T. H. TRIMBLE, recently named eastern sales supervisor, has been with Hooker Electrochemical Co. as a field salesman in several territories. He has been put in charge of field sales activities from the eastern Ohio line through the Atlantic states.

S. I. ANDERSON has been promoted to assistant to the general sales manager of Hooker Electrochemical Co, with responsibilities in both eastern and western sales activities. He was formerly the company's mid-west representative and supervisor.

Sulzer weaving machine in batteries of 10 for the purpose of gaining cost and work-load data and the basic economic facts about the machine. Shipment of the first machines, originally scheduled for December, 1949, will be slowed down considerably by the strike at the plant.

Emil V. Wilson Co. has been formed as a firm of weaving consultants with offices at 201 Woodside Bldg., Greenville, S. C. A complete mill service includes loom rebuilding and overhauling, and the converting of looms for weaving changed fabric designs.

Chemical Suppliers

The American Cyanamid Co., Textile Resin Dept., has developed a rapid dye test to determine how different batches of wool should be treated to obtain uniform shrinkage results. The new process is carried through at low temperatures on ordinary drying equipment, the company says, reducing resin requirements by 30 to 50%. The company has appointed C. F. Bonnet as production manager of its industrial chemical division, with G. W. Russell as his assistant.

Joseph Bancroft & Sons Co. has brought out what is said to be an "entirely new field" of licensed finishes and finishing techniques, including durable schreinered, embossed, sculptured, textured surface, jacquard, and damask effects. William Myers, Jr., was named New England director of the textile-finishes-development department, while Albert C. Woodruff, Jr., was appointed New York merchandising manager.

Carbide and Carbon Chemicals Corp. has named Paul J. Doyle, Jr., as district manager for the entire Texas area.

Dow Chemical Co. executive personnel has been shifted as a result of the death of Dr. Willard H. Dow, president. The board of directors elected Earl W. Bennett chairman and Leland I. Doan president. Mr. Bennett retains his old post of chairman of the finance committee. Mr. Doan had been director of sales.

E. F. Drew & Co., Inc. has made additions to its power-chemicals division. Mr. Vincent P. Murphy, formerly of Hall Laboratories, has joined the technical department; and Mr. John W. Wood, formerly of Permutit Co., has joined the research department.

Elgin Softener Corp. has named Arthur Weber as sales representative for Georgia and C. Donald Kopplin as sales representative for Minnesota, North Dakota, South Dakota, and northwestern Wisconsin.

General Aniline and Film Corp. has made known the construction of new dyestuff and intermediate manufacturing facilities, laboratories, pilot plant works, and the introduction of new products. Research and development expenditures were set at $4,696,025, or 5.2% of the company dollar sales. A new building for the production of intermediates at Rensselaer, N. Y., will be completed in 1950.

You get

Quality

you can count on...

Economy

you can save by...

when you bleach with

SOLVAY

TRADE MARK REG. U. S. PAT. OFF.

LIQUID CHLORINE

In your bleaching operations, the best costs no more! SOLVAY Liquid Chlorine gives you high quality bleaching performance at lowest possible cost. Do as the leading textile firms do—for efficient bleaching, choose SOLVAY Liquid Chlorine.

SOLVAY SALES DIVISION

Allied Chemical & Dye Corporation

40 Rector Street, New York 6, N. Y.

BRANCH SALES OFFICES:

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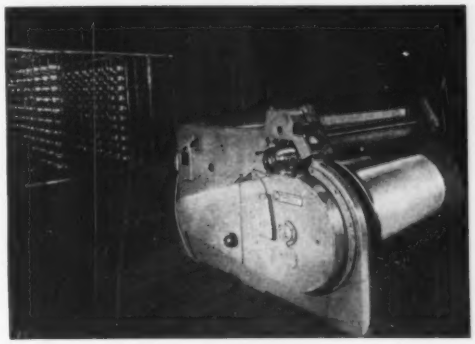
A New



SIPP-EASTWOOD

HIGH SPEED

WARPER

ELECTRONICALLY CONTROLLED

Here is a powerful new warper, so heavily constructed as to be practically vibrationless when in operation. It can run at yarn speeds of 150 and 900 yards per minute, and builds beams up to 36 inches in diameter, 54¼ inches or wider between heads. AC-DC drive.

Outstanding Features Include:

1) Static eliminator.
2) Electric Control of warp speed.
3) Electric indication of speed at all times.
4) Pushbutton controls throughout.
5) Motor mounted magnetic brake.
6) Magnetically operated beam brakes for auxiliary braking of the beam, measuring roll and pressure roll, and to hold the beam at a standstill.

A separate hydraulic system is provided for handling of beams in and out of the warper.

Write for full description of this new warper.

ITS A TRADE MARK SIPP EASTWOOD

SIPP-EASTWOOD CORPORATION

47 Keen Street **Paterson, New Jersey**

DOMESTIC AGENTS:

S. FRED TOLL
2128 Green St.
Charlotte 1, N. C.

J. S. FALLOW & CO.
New Bedford, Mass.

don't buy

Certified Climate

REG. U. S. PAT. OFF.

invest in it

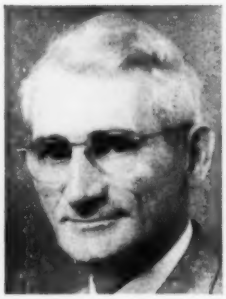
Others have, and it hasn't cost a cent . . . Paid for itself remarkably soon.

•

Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

NEWS ABOUT *Suppliers* (Continued)



B. A. PIETRI of Richmond, Va., was recently named district sales representative of Eriez Mfg. Co. He will handle the company's line of textile magnets in Virginia and the northern half of North Carolina.

HENRY H. HERSEY, has been appointed a district sales representative by Eriez Mfg. Co. In the textile field since 1916, he will work out of Greenville, S. C., covering South Carolina and southern North Carolina.

Hilton-Davis Chemical Co. has instituted a preventive-hygiene-research program under the direction of Dr. D. J. Lauer, plant physician. Blackman & Uhler Co., Spartanburg, S. C., has been appointed to represent Hilton-Davis products in the Southern textile field.

E. F. Houghton & Co., has set up a new product-development department to "facilitate the handling of newly developed products, and to bring about closer liaison between the research, production and sales staffs." Dr. H. B. Walker has been named manager.

Interchemical Corp. will soon be housing in a new building at Hawthorne, N. J., all operations of its textile-colors division. The move from Fair Lawn and two locations in Paterson is scheduled for late this year and early 1950.

Daniel H. Jones Laboratories has discontinued its mothproofing consultant and testing services and is now the sole manufacturer of its mothproofing compound. Massasoit Products Co. of West Springfield, Mass., has been named New England representatives and distributors for the Jones products.

Liquid Conditioning Corp. will operate as a wholly owned subsidiary of Cochrane Corp.; and the products of the former company, comprising a line of equipment for the conditioning of water and other liquids marketed under the trade name "Liquon," will continue to be sold under that name.

Mathieson Chemical Corp. is producing hydrazine in anhydrous form and small quantities of hydrazine sulphate. Limited amounts are being supplied to commercial interests for test purposes. Uses on a larger commercial scale will be developed as the compound increases in availability, the company says.

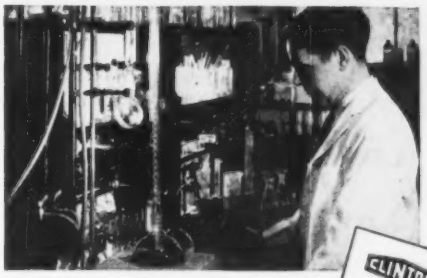
Monsanto Chemical Corp. and American Viscose Corp. have joined in the formation of a separate company to engage in research and development work in the field of synthetic fibers. The corporation, as yet unnamed, will be headed by Dr. Carroll A. Hochwalt, a Monsanto vice president, and will pursue its research and development work through the laboratories of the two companies.

Pennsylvania Salt Manufacturing Co. has developed a series of new chlorinated hydrocarbons. First of the series is a clear, viscous resinoid, with good thermal stability and showing no hydrolysis during a 16-hour contact with water at room temperature and at 100° C. George B. Beitzel was recently elected president.

Stein, Hall & Co., Inc., has appointed Frank W. Perry manager of the Charlotte, N. C., office; and Norman H. Nuttall manager of the textile department. Mr. Perry was at one time assistant to the chief chemist of the Amoskeag Manufacturing Co. Mr. Nuttall has been associated with Stein, Hall for nine years.

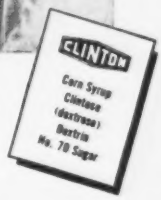
You'll find Clinton Quality Starches Tops for Every textile purpose!

Clinton Textile Starches are scientifically manufactured and guaranteed for unvarying uniformity and pH control. Clinton Starches give your warp the necessary body, strength and pliability that means quality weaving every time. Reduce loom stoppage and increase production with Clinton Textile Starches. For years Clinton has been a leader in the production of starches for all textile purposes.



CLINTON

You'll find our staff of highly trained technicians helpful and profitable in solving your sizing problems. Without obligation, write or call Clinton Industries, Service Laboratory, Clinton, Iowa.



Clinton Industries, Inc.

CLINTON, IOWA

CUT OPERATING COSTS! ASSURE CONTINUOUS PRODUCTION!

with MOUNT HOPE CLOTH OPENING EQUIPMENT

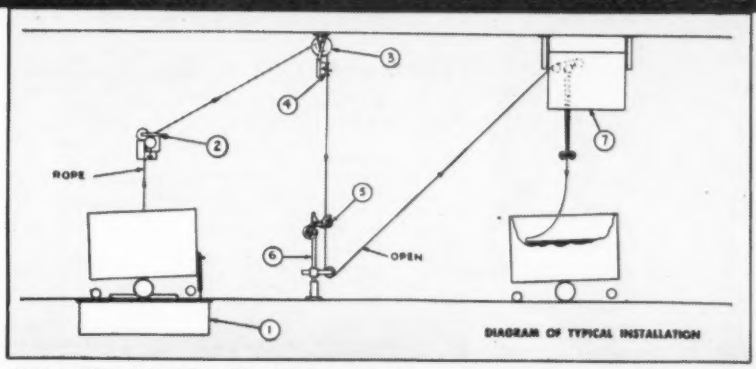


DIAGRAM OF TYPICAL INSTALLATION

1. Turntable Detwister
2. Tension Squeezer
3. Overhead Sheave
4. Detwister Switch
5. Swing Guider and Opener
6. Guider Stands
7. Plaiter

Draw Rolls
Stainless Steel Pot Eyes

YOU GET INCREASED PRODUCTION with MOUNT HOPE INSTALLATIONS because:

1. **MORE WORK HOURS** — no stopping of machines to remove twist.
2. **FULLY AUTOMATIC OPERATIONS** — no hand labor — opens cloth from the rope regardless of amount of twist.
3. **MAXIMUM FABRIC PROTECTION** — no sharp edges to cut cloth, cannot crease in next machine in line.
4. **MINIMUM MAINTENANCE** — no rapidly revolving parts.
5. **QUIET OPERATION** — no beating action.

For full information, including prices, write today for Bulletin SG-COL — no obligations, of course!

MOUNT HOPE MACHINERY CO., Taunton, Mass., U. S. A.

Representatives — Parkman Collins Company, Boston — for Maine • Ingalls Engineering Company, Providence — for N. H., Mass., R. I., and Conn. • John H. Andresen, Inc., Paterson — for Southeastern N. Y., N. J., and Pa. • A. B. Julin, Watertown, New York — for Northern and Western N. Y. • Slaughter Machinery Company, Charlotte — for the South • S. S. Wilson, 1737 Howard St., Chicago — for Mid West • Sidney Springer, Los Angeles — for California • W. J. Westaway, Ltd., Hamilton and Montreal — for Canada

E is for Efficiency

E is for Economy

E is for Easy to Use

YES
E is for Exsize

DESIZE with EXSIZE!*

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Milwaukee, Wisconsin

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NEWS ABOUT *Suppliers* (Continued)

S. H. L. GREAVES, (left), managing director of Textile Machinery Makers Ltd. since 1946, retired recently. He had been secretary of the organization from 1931 to 1946, and managing director since then. A. P. H. AITKEN, (right), former deputy managing director, is the new managing director of the British group. He has been with the textile machinery combination since 1936, and deputy managing director since 1947.

Texize Chemicals, Inc., has named Carl M. Chalmers company representative in the textile division. Mr. Chalmers will service mills in the Southeast.

Westvaco Chemical Div. of Food Machinery & Chemical Corp. has appointed William N. Williams as assistant to the executive vice president. Previously head of the production department, Mr. Williams will now be concerned with general administration of all departments.

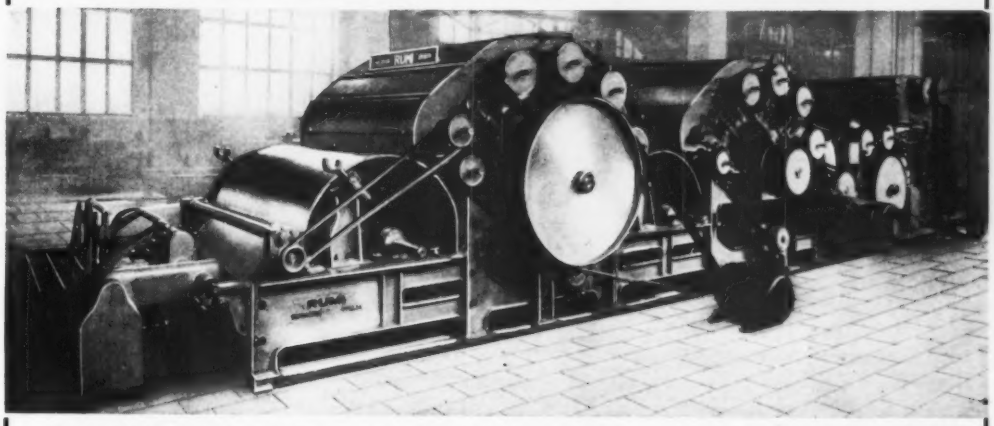
Other Services

Associated Business Papers men learned from E. F. Hamm, Jr., president of ABP at the annual presentation of the group's advertising awards in Philadelphia, that the first industrial advertisement published in the United States was textile in character. The advertisement was run in 1789 by two Philadelphia Quakers and consisted of a request that anyone smuggling textile-machinery plans from England get in touch with them. Samuel Slater answered the ad and soon afterward founded the cotton division of the American textile industry. This year the advertising awards were based on factors contributing to the effectiveness of advertising. General Electric Co. and E. I. du Pont de Nemours & Co. each captured three of the awards. Armour & Co. received two. Other advertisers in the textile field receiving one award each were Armstrong Cork Co., The Bristol Co., Franklin Process Co., B. F. Goodrich Co., Hercules Powder Co., The International Nickel Co., Monsanto Chemical Co., Pittsburgh Plate Glass Co., United States Steel Corp., Universal Winding Co., and Westinghouse Electric Corp.

The National Association of Textile Machinery Manufacturers at its annual meeting in Providence re-elected Robert Leeson, president of Universal Winding Co., as NATMM president. J. Hugh Bolton, president of Whitin Machine Works, was re-elected vice president. Samuel F. Rockwell, president and treasurer of Davis & Furber Machine Co., was re-elected treasurer. Directors at large were re-elected as follows: W. Frank Lowell, Saco-Lowell Shops; R. G. Ross, Barber-Colman Co.; and Thomas H. West, Draper Corp. The NATMM is sponsoring the American Textile Machinery Exhibition to be held in Atlantic City, April 8 to 12, 1950.

United States Testing Co. has opened a Denver, Colorado, branch laboratory at 4639 Lafayette St. The new laboratory will serve western wool growers, handlers, and dealers. It will be under the direction of Berry Duff. Elected at the annual meeting of the testing company in Hoboken, N. J., were D. E. Douty, chairman of the board; A. L. Brassell, president; H. M. Block, vice president; J. A. Nary, vice president; S. B. Walker, secretary and treasurer; F. G. Boyc, assistant secretary and treasurer.

RUMI • CARDS • COMBERS • LOOMS

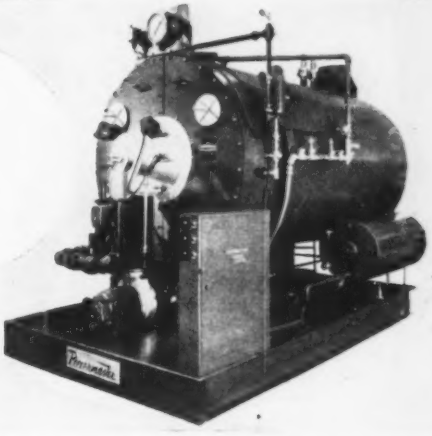


Two-cylinder worsted card with automatic feed box, breast, and Morel-type burr cleaner. Each cylinder has four workers and strippers and a burr-removing attachment. Width of card is approximately 51 inches. Send for complete information. Prompt Delivery.

Exclusive Representatives for U. S. A.
Rostan Machinery & Equipment Company
75 West Street, New York 6, New York

RUMI
Fonderie-Officine
Bergamo, Italy

"One Good Powermaster Deserves Another"--SAY MANY SATISFIED USERS



Orders for *additional* O&S Powermasters are mighty good proof that it is a top-notch steam generator that will help you to:

SAVE FUEL—because its 3-pass design puts out high quality steam at *maximum efficiency* . . .

SAVE TIME—because its operation is *fully automatic*, with all parts easily reached to simplify maintenance . . .

SAVE COSTS of installation as well as operation because it is delivered with boiler, burner, controls and feed water system built into *a complete steam plant, carefully tested at the factory* . . .

Does it do all this? Yes!—say users. COCA COLA bottlers, for instance, have installed *twelve* O&S Powermasters in plants from Duluth, Minn. to Quito, Ecuador. Many other users throughout the world have bought additional Powermasters after their first unit proved its cost-saving operation.

YOU CAN CHOOSE A POWERMASTER to burn light oil, heavy oil, gas—or any combination of these fuels with change-over in a few minutes. Get new catalog describing sizes from 15 HP. up, steam working pressures from 15 to 150 pounds, by writing to Orr & Sembower, Inc., 970 Morgantown Rd., Reading, Pa., U. S. A.

ORR & SEMBOWER Powermaster® STEAM GENERATORS

NEWS ABOUT Mills

Cotton Mill News

American Thread Co., Sevier, N. C., has secured option on tract of land where company plans to establish finishing plant.

Cannon Mills, Inc., Kannapolis, N. C., will open branch office at Interstate Bldg., Denver, Col. W. F. MacLaughlin has been appointed manager.

Carthage Weaving Co., Carthage, N. C., has begun installation of 46 looms for production or cloth for tarpaulin. Company recently began operations after being closed down for nearly two years.

Chicopee Mfg. Corp. of Ga., Cornelia, Ga., has work nearing completion on 10,000 sq. ft. addition to main plant for production of Lumite woven saran screening and fabrics. Increased space at plant will be used to step up output.

Clinton Cotton Mills, Clinton, S. C., has let contract to Fiske-Carter Construction Co., Spartanburg, S. C., for proposed one-story office building estimated to cost $123,200. McPherson Co., Greenville, S. C., is architect.

Dominion Textile Co., Ltd., with head office in Montreal, is having structural alterations, including erection of small building for air-conditioning equipment installation, carried out at St. Ann's mill, 2618 Notre Dame St. E., Montreal. Making of machinery changes, lighting improvements, and addition to transformer building will involve expenditure of $1,500,000.

Dora Yarn Mills Co., Cherryville, N. C., has awarded contract to McKoy-Helgerson Co., Greenville, S. C., for one-story addition to winding room which will be used for slashing and warping operations. Estimated cost is $30,000. J. E. Sirrine Co., Greenville, is architect and engineer.

Erwin Cotton Mills Co., unit at Neuse, N. C., has work well under way on addition to storage and slasher room. Addition will add 8,000 sq. ft. of floor space and will provide for 6,000 spindles and 130 looms. New equipment will be used for rayon weaving.

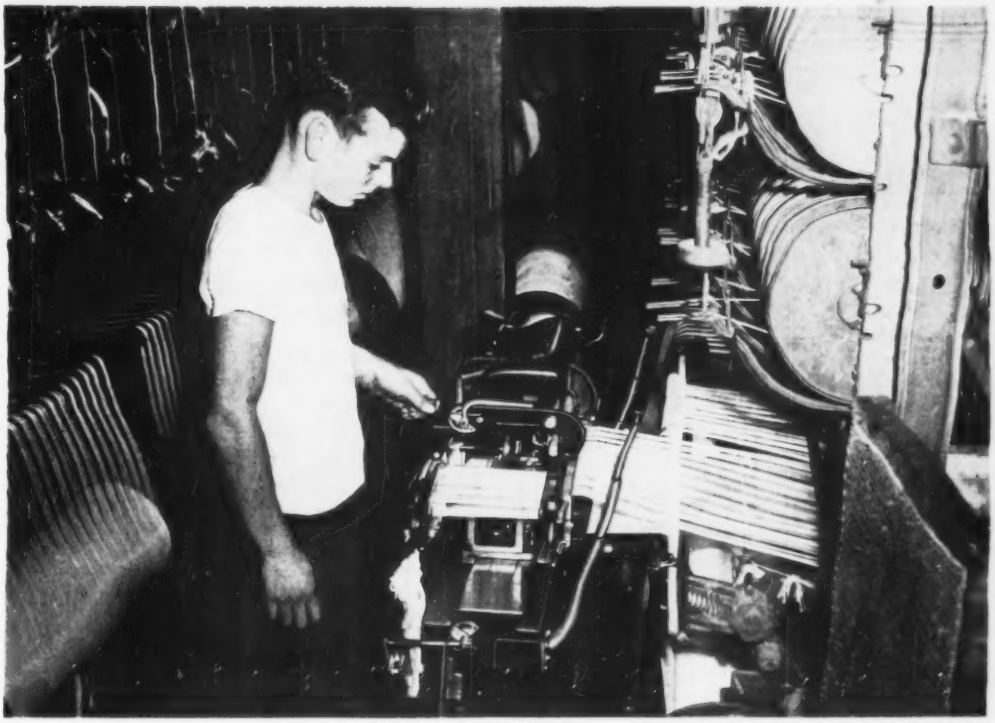
Gastonia Combed Yarn Corp., Gastonia, N. C., has modernized entire manufacturing process from opening of raw cotton to packing of finished yarn. Blending feeders, waste feeder, and new opening equipment have been added to picker room. Six new Whitin cards have been added, and others have been overhauled. Saco-Lowell Roth system of long draft has been added to 48 spinning frames, and new rings, spindles, and bolsters have been installed. Estimated cost is $400,000. Company has modernized Dunn Mill and has started work on renovating Clara Mill.

Gold-Tex Fabrics Corp., unit at Rock Hill, S. C., will soon install new equipment which is being shipped to plant. Company has closed down temporarily for purpose of moving equipment and making other necessary adjustments preparatory to resumption of operations on expanded scale.

Graniteville Co., Inc., Graniteville, S. C., has awarded general contract for one-story addition to be equipped for expansion of bleachery.

Hartwell Cotton Mills, Hartwell, Ga., plans $1,500,000 expansion program which will double present capacity of plant. Program calls for new building, new machinery, and air-conditioning unit, as well as other improvements and alterations. New one-story, 193x 203-ft. addition will be joined to present building adding 80,000 sq. ft. of floor space.

High-Speed Threads, Inc., Greensboro, N. C., newly organized concern for manufacture of cotton sewing threads for industrial trade, has begun operations. Arthur A. Neller is president of company; Beverly



PHOTOGRAPHED AT J. S. MASON & SONS, INC., WESTBORO, MASS.

BARBER-COLMAN PORTABLE WARP TYING MACHINE SHOWS SAVINGS ON RIBBON LOOMS IN THIS WAY...

The warp on these ribbon looms is supplied partly by the individual spools above and partly by the large beams below. With this improved arrangement, the Barber-Colman *Portable* Warp Tying Machine can then be used for replenishing the lower beams and is able to effect a worthwhile saving. One weaver can now tend four of these looms, instead of only two as formerly. Each beam is tied in two sections or bites with the Barber-Colman machine. Each section or bite is converged during the machine-loading process to increase the sley. Even if small gaps are left, as shown in the picture above, the knotter mechanism will travel ahead until the sensitive selector needles pick up the proper pair of ends from the old and new warps. Barber-Colman Portable Warp Tying Machines are easy to operate, adaptable to a wide variety of conditions (as witness the somewhat unusual application shown here), are accurate and reliable, and have shown very low maintenance costs. Your Barber-Colman representative is available to discuss with you any possible applications for the machine in your mill.

DATA FROM THE MILL

C & K SPACE LOOMS
Narrow Fabrics — Wide Beam Set-Up
Zipper Tape
MODEL "LC"
PORTABLE WARP TYING MACHINE
One Operator

4 Beams End to End per Loom
651 Ends per Beam — 18 sley
30s/2 Cotton
TYING-IN TIME — 40 MIN.

Use of Portable Warp Tying Machine and wide beams has enabled mill to increase production from 2 to 4 looms per weaver.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

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ROCKFORD • ILLINOIS • U. S. A.
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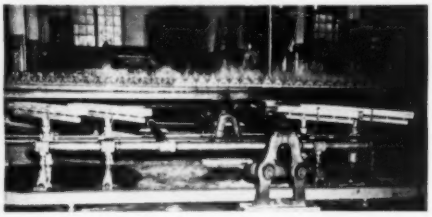

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FRAME INCREASE
DRYING SPEED ON
RAYONS.

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Write for bulletins

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455 W 45th. Street New York 19, N. Y.

"Standard" PORTABLE STYLE No. 1530 TAPE SEWING MACHINE

New portable Tape Sewing Machine for sewing Spinning and Twister tapes. Adapted to many other uses. Produces lock stitch and has accurate stitch adjuster. Also has REVERSE MOTION and self-releasing bobbin winder. Hand operated • Compact for small space operation • Adjustable seat • Swivel casters.

For complete details — write for descriptive folder.

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Charlotte, N. C.

NEWS ABOUT *Mills*

C. Moore is vice president; and Ralph B. Coit is secretary and treasurer.

Jefferson Mills, Jefferson, Ga., has built a new clubhouse across from Memorial Field. It will be known as the Jefferson Community Center. It was originally a project of the local overseers' club started as an idea only a year ago.

Kendall Co., Walpole, Mass., which recently announced plans for construction of large addition to Oakland Mill, Newberry, S. C., states that new machinery to be installed in this addition will be delivered from August through December. Modernization program of unit will represent cost of $1,500,000.

Lanett Mill, unit of West Point Mfg. Co., Lanett, Ala., is installing air-conditioning in weave shed, with Carrier Corp., Syracuse, N. Y., and Atlanta, Ga., in charge of work. Cost is estimated at $350,000, and work is expected to be completed by July 1. Equipment is designed to keep temperature at constant year-round level of 80° F.

Maverick Mills, Boston, Mass., will build new plant at Greenville, S. C., on White Horse Road.

Monarch Mills, Union, S. C., has installed 16 roving frames and expects to install 11 additional frames in near future. Plans in $350,000 modernization program at Ottaray plant include installation of 81 Model X-D looms, air-conditioning, and fluorescent lighting.

Pepperell Mfg. Co., unit at Fall River, Mass., is converting plant for rayon manufacture. Mill's cotton machinery is being shipped south. Ninety percent of rayon machinery necessary already has been received, and conversion will be completed in about two months.

Pinecrest Cotton Mills, Inc., Pine Bluff, Ark., has let general contract to Universal Construction Co., Scarritt Arcade Bldg., Kansas City, Mo., for new mill. Spinning mill, weaving mill, cutting and sewing department will be installed. Building will contain 120,000 sq. ft. of floor space and is estimated to cost approximately $2,000,000, with equipment.

Proximity Mfg. Co., Greensboro, N. C., has announced $1,500,000 expansion program at Pineville plant, Charlotte, N. C., with machinery being doubled. Spindles will be increased from 14,264 to 31,000 and looms from 316 to 600.

Southern Weaving Co., Greenville, S. C., announces plans for $140,000 addition to weave room. Triangle Construction Co., Greenville, is general contracting firm. Cost of building will be $102,000. Other phases of program will amount to $38,000.

Springs Cotton Mills, Fort Mill, S. C., has begun construction on modern pilot mill, research laboratory, and executive offices. The Lancaster, S. C. mill has signed contract with Draper Corp., Hopedale, Mass., to purchase 14,000 looms. Delivery will begin in October, and shipments will be made at rate of 100 machines each month. Price involved is said to be $15,000,000.

Textiles, Inc., Myrtle unit, Gastonia, N. C., has received delivery of new Nasmith comber said to be first one built in England and shipped to this country since before the war.

Wennonah Cotton Mills, Lexington, N. C., has purchased 150 new wide looms for manufacture of 42-in. cloth. First shipment is expected to arrive in fall. Company is also constructing dye house, which will add 16,500 sq. ft. to cloth and finishing division.

West Point Mfg. Co., Shawmut, Ala., plans one-story laboratory and technical research building. Company has also added new department at mill at Lanett, Ala., for production of bonded-fiber material known as Lantuck Div.

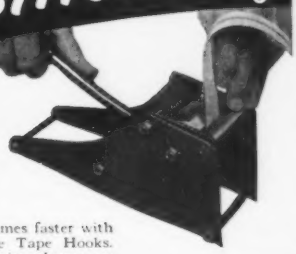
Wool Mill News

Albert J. Bartson, Inc., Midland Park, N. J., announces that company will begin moving jacquard machinery to new $300,000, 90x100 ft. building at Lavonia, Ga., early in April. Building will house modern plant for manufacture of fine drapery and upholstery materials.

Bachmann Uxbridge Worsted Corp., Uxbridge, Mass., is opening worsted-yarn spinning

10 TIMES FASTER THAN STITCHING!

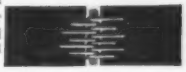
SPINDLE TAPE LACING EQUIPMENT



Lace spindle tapes 10 times faster with Clipper No. 25 Spindle Tape Hooks. Tapes can be prepared in advance so frame is shut down only long enough to place new tape on the pulleys and join ends with connecting pin. Tapes run true—last longer—run smoother—require less tension—VIBRATION IS ELIMINATED

CONDENSER TAPE LACING EQUIPMENT

Lace condenser tapes with Clipper No. 25 Condenser Tape Hooks. Clipper laced tapes, prepared in advance, can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving.

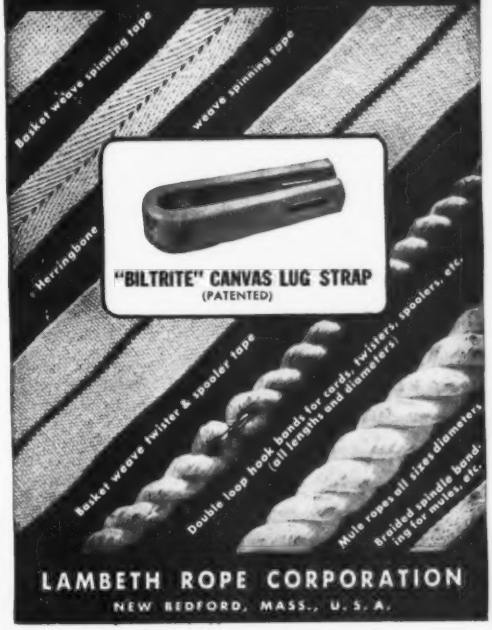


CLIPPER BELT LACER COMPANY, GRAND RAPIDS 2, MICHIGAN

Clipper BELT LACING EQUIPMENT

LAMBETH PRODUCTS

FOR SPINNING, TWISTING, SPOOLING, WEAVING


Basket weave spinning tape
weave spinning tape
Herringbone
"BILTRITE" CANVAS LUG STRAP
(PATENTED)
Basket weave twister & spooler tape
Double loop hook bands for cords, twisters, spoolers, etc. (all lengths and diameters)
Mule ropes all sizes diameters
Braided spindle banding for mules, etc.

LAMBETH ROPE CORPORATION

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World's First and Finest

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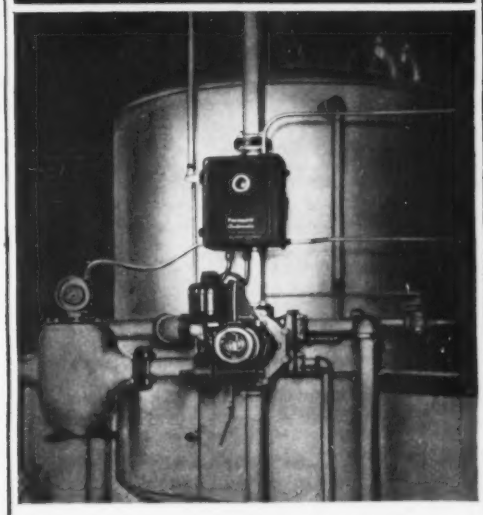

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PERMUTIT INSURES QUALITY! Permutit quality-controlled process water safeguards fabric quality! Saves you money by guarding against spotty, off-color dye lots, or chemical reactions that ruin the finish of your fabrics.

PERMUTIT SAVES LABOR! Automatic regeneration, made possible by Permutit's Multiport Valve Control, saves you many costly hours of labor and attention! Modern Permutit units now offer you greater softening capacities than ever before!

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Surveys—Reorganizations—New Plant Developments for Cotton, Wool, and Synthetic Yarn and Cloth Processing Bleaching, Dyeing, Printing and Finishing.

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Labormeter Burden-meter Waste-meter

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The instruction by demonstration method is used by Barnes Engineers as refresher training for their clients. The following questions were part of the **"Operating and Time Study Engineering Clinic"** held by the Barnes organization.

1. **Are Job Description Recordings** of major importance and how is this information used?
2. Do we over-emphasize the need for a maximum of accuracy and thoroughness in the collection of **Mechanical and Operating** information?
3. Do our studies and the methods employed **produce the desired results?**

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for use in shrinking fabrics to the *"Sanforized"* standard by the Compressive Shrinkage process, are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the heaviest denim, there is a special Huyck blanket to meet your specific needs.

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F. C. HUYCK & SONS
KENWOOD MILLS
Rensselaer, N. Y.

NEWS ABOUT *Mills*

plant in Talladega, Ala. Full production is scheduled for October. Harold J. Walter is president.

Bousquet Spinning Co., Woonsocket, R. I., has been chartered, with incorporators consisting of Sidney Silverstein, Betty M. Murray, Muriel T. Genereux, all of Woonsocket, to manufacture and deal in textiles, fabrics, yarns, etc.

Brooks Spinning Co., Newnan, Ga., has begun construction of plant for manufacture of woolen yarns and expects to begin operations within six months. New plant will contain more than 2,000 spindles, with plans for increase.

David Pike & Co., Bingley, Yorkshire, England, recently completed agreement with city of Quebec for establishment of weaving mill at St. Malo industrial center No. 5. City of Quebec will loan $350,000 for establishment of this proposed Canadian branch.

Hayward Woolen Mills, East Douglas, Mass., has spent $1,400,000 for new equipment and machine rearrangement to put plant into highest state of efficiency and economy. Leo J. Murray is treasurer.

Old Colony Mills, Inc., 25 Adams St., Taunton, Mass., has been incorporated with capital of 150 shares of stock, to manufacture woolen and worsted goods. Philip A. Moreland is president.

Pearl Mill, Casar, N. C., newly organized concern, will begin operations as soon as necessary power is supplied. Company will manufacture coarse carded yarns. R. J. Woods owns plant and will direct operations.

Premier Worsted Mills, Bridgeton, R. I., will remove about 24 looms and accessory equipment to mill at Raleigh, N. C.

Ramseur Worsted Mills, Inc., Ramseur, N. C., subsidiary of Guerin Mills, Inc., has begun construction of new mill. It is expected that new unit will be ready for occupancy in September, at which time installation of machinery will begin. It will be first French-system spinning mill in South. New building will contain about 31,000 sq. ft. of floor space, on one-floor level.

Spun Fibers, Inc., Whitney, N. C., has started commercial production of a new worsted yarn twisted with a 50-den. nylon-filament yarn, called Nyspun.

Wanskuck Co., Providence, R. I., has received permit to build one-story, 63x23 ft. addition to industrial building. Addition will be of masonry and wood and is estimated to cost $27,000.

Ziock Industries, Inc., Brownwood, Tex., will begin operations in new mill in May. Plant represents investment of over $300,000 and will produce finished cloth. Building has 45,000 sq. ft. of floor space, and 60 workers will be employed.

Synthetic Mill News

American Silk Mills Corp., Orange, Va., has been chartered by Virginia Corp. Commission with maximum capital of 200 shares without par value.

Asheville Fabric Mills, Inc., Asheville, N. C., has renovated plant and installed new machinery designed to permit production of about 5,000,000 yd. of men's and women's suitings annually.

Beaunit Mills, Inc., Coosa Pines, Ala., will soon begin operation of its filament-rayon plant. Construction was delayed due to flood conditions. Plant will have output of 10,000,000 lb. of viscose rayon annually.

Bloomsburg Mills, Inc., Fernbrook Park plant, Wilkes-Barre, Pa., will begin operations in new mill shortly, depending on delivery of equipment. New plant is 244x560 ft., one-story, of concrete, brick, and steel.

Cannon Mills Co., Kannapolis, N. C., has completed addition to one of buildings which will be used in development of synthetics.

Deering, Milliken & Co., Inc., has nearly completed construction of 70,000 sq. ft. addition to Abbeville Mills Corp., Abbeville, S. C. Addition will include administrative offices, research laboratories, and additions to dye plant. It will be completely air-conditioned and will be finished with glazed tile on interior. Estimated cost will exceed $1,000,000.

MACK *Specification* BOBBINS

bring you these six benefits

Mack Bobbins, performance proven before you buy them, bring you the benefit of these six famous Allentown Specifications: Vibrometer testing • Concentricity testing • Strength testing • Controlled accuracy • Extra smooth finish • Best materials.

ALLENTOWN BOBBIN WORKS, Inc.
ALLENTOWN PENNSYLVANIA

FISHER *FUNCTIONAL* TEXTILE TRUCKS

FOR EVERY MILL PURPOSE

Scientifically engineered for Roving, Filling, Doffing, Lap, Platform, Battery Filling, and other specific jobs. Warp beam trucks for manual or Monorail handling. More rugged, and stronger at points of stress. Fisher Trucks are designed to avoid damage to machinery on contact. Aluminum, Stainless Steel, and Galvanized Steel. Styles made include Vulcanized Fibre with cured oak bands. Write now for illustrated brochure showing all styles.

Oval End Steel Truck.

Inset shows inside and bottom construction, with vertical and horizontal spot-welded reinforcement.

Representatives

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Carolina Supply Co., 35 Court St., Greenville, S. C.
Shelton & Associates, P. O. Box 496, Greensboro, N. C.

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A series of outstanding coatings for textiles have been developed by Watson-Standard's research laboratories.

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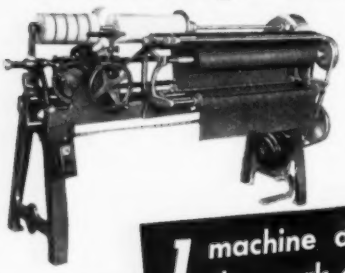
UTICA Combination Winding and Cutting Machine



1 machine does the work of 2

THIS fast-producer has all the advantages of two machines, but uses the floor space of just one. Cuts light, medium, or heavy weight, both straight and bias fabrics. Cutter and Winder can be run at the same time. Rigidly constructed for long, trouble-free operation. Has measuring scale for cutting accurate rolls. It's safe—knife, grinding wheel, all gears and sprockets are well-guarded. Equipped with Veeder Root yardage counter. Made in 40, 45, and 55 inch width machines. Make your own bindings—as you need them—from the same material as your product—at lower cost. Write today.

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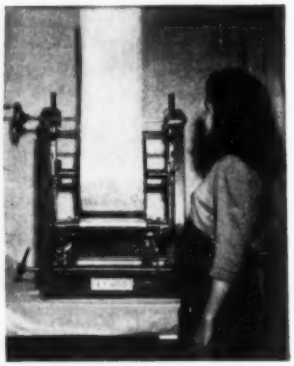
Builders of Textile Machines Since 1903

LABORATORY AND RIBBON PRINTING MACHINE



PRICE—Complete with stand and Vickers Hydraulic vari speed drive 10 to 100 yards per minute—$850.00

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248 East 17th St. Paterson, N. J.

MANUFACTURERS OF VINYL PRINTING MACHINES

1 to 4 colors—up to 80" wide.

Complete specifications and price on request.

NEWS ABOUT *Mills* (Continued)

Textron Southern, Inc., Hartwell, Ga., has received some of machinery for new plant which will be installed immediately. Equipment received includes Cocker slasher, soaking machines, and extractors. Plans for new mill call for installation of 240 Crompton & Knowles S-6 looms, with capacity of 60,000 to 100,000 yd. per week, depending upon cloth construction.

United Rayon Mills, Elberton, Ga., has work well under way on $500,000 expansion program. Project will double size of plant and is scheduled for completion in July. Addition will provide 50,000 sq. ft. of floor space. Air conditioning will be installed.

Knitting Mill News

Apex Hosiery Co., Philadelphia, Pa., has installed two Reading 60-gage full-fashioned machines. Company is reported to be selling all its remaining 42-gage knitting machines and discontinuing that type of production.

Buckingham Hosiery Co., Wycombe, Pa., formerly owned by Harold Berger and Fred Tecce of Philadelphia, has been purchased by Richard and Robert Wasserman, and Gilbert Cooper, and will operate under name of Buckingham Hosiery Mills.

Burlington Mills Corp., unit at Independence, Va., will move half-hose knitting operations to plant at Kernersville, N. C., using building formerly occupied by Advance Knitting Co.

Chadbourn Hosiery Mills, Inc., Charlotte, N. C., has completed plans for modernization program at its Charlotte and other plants. Program calls for replacement of obsolete equipment, and cost is expected to exceed $1,000,000.

Claussner Hosiery Co., Paducah, Ky., has received 60-gage machinery which has been on order for some time and will offer 60-gage full-fashioned hosiery in its fall line. Company plans investment of over $200,000 in these machines.

Cloverdale Knitwear Co., Brooklyn, N. Y., has leased two-story building at 482-84 Seneca Ave. for use as mill.

P. H. Hanes Knitting Co., Winston-Salem, N. C., has obtained permit for installation of elevator costing $10,317. Contractors are Salem Foundry & Machine Works and Elevator Service Co.

Hemmerich Knitting Co., Denver, Pa., manufacturers of 51-gage full-fashioned stockings, has opened New York office at 475 Fifth Ave. John D. Gorman is in charge of office.

Hoover Hosiery Co., Concord, N. C., has completed addition to full-fashioned division, and it is now in operation. Additional machinery will be installed in future.

Iredell Knitting Mills, Inc., Statesville, N. C., organized for manufacture of cotton products, is now in operation. Firm manufactures infants' wear.

Klear Knit Mill, Independence, Va., has begun operations in new mill. M. E. Soderberg is superintendent.

Lynn Hosiery Mills, Inc., Mount Holly, N. C., plans one-story addition, estimated at $50,000.

Man-Lee Mfg. Co., Asheboro, N. C., has been organized with capital stock of $75,000 to engage in knitting business. J. B. McMillan, J. W. Johnson, and M. Wilson, all of Charlotte, were listed as incorporators.

Nolde & Horst Co., Reading, Pa., has let contract for air-conditioning of Womelsdorf, Pa., unit to provide for efficient operation of new 60-gage full-fashioned machines.

O. K. Hosiery Mill, Selinsgrove, Pa., manufacturer of full-fashioned hosiery, has scrapped 28 machines. Present equipment consists of 128 54-gage Wildman machines and two 51-gage Reading machines. Mill plans to install 60-gage machines in near future.

Palmetto Full-Fashion Hosiery Mill, Saluda, S. C., plans construction of finishing plant on ground adjoining present mill. Plans call for actual construction work to begin in near future, with total expenditure estimated at $100,000 for building and machinery.

Parker - Renfroe Knitting Mills, Inc., Hickory, N. C., plans to begin operations in near future. Machinery and equipment of Dr. Parker Holt

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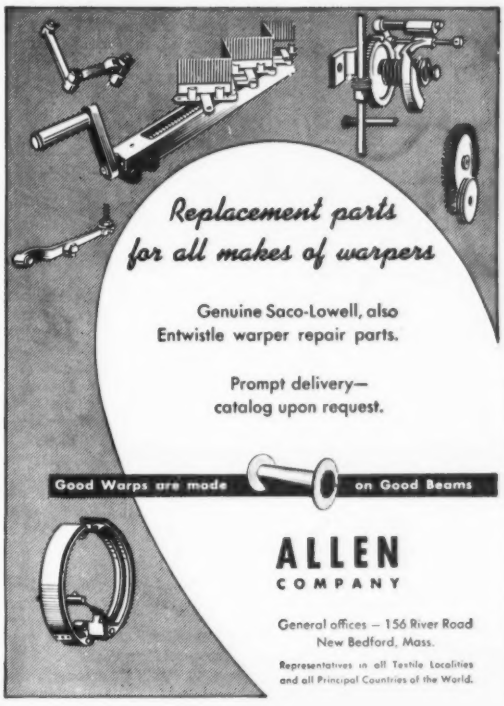
PROTECT AGAINST HUMIDITY!

FREE BOOK TELLS HOW one coat of the right aluminum paint can lighten interiors, provide a metal barrier against humidity. Alcoa does not make paint, but we want you to have these facts to help you get your money's worth. Explains how aluminum paints are formulated—tells why you may not get good results with just "any" aluminum paint. For your copy, or for specific advice on your paint problems, address PAINT SERVICE BUREAU, ALUMINUM COMPANY OF AMERICA, 2174-F Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA

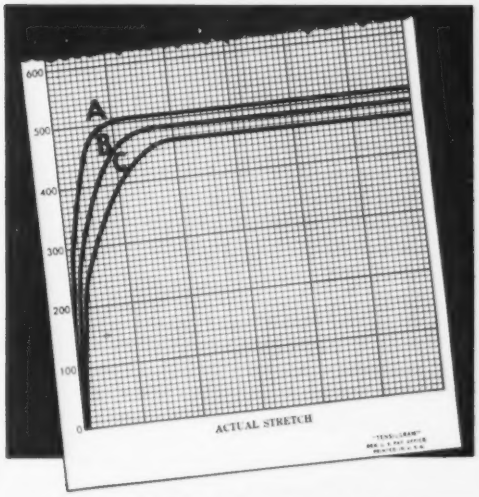
*The RIGHT aluminum paint for this job is ALUMINUM METAL & MASONRY PAINT, made by many paint manufacturers. Buy this paint from suppliers who display the Alcoa shield on the brand they sell. It is a symbol of quality, indicating that their aluminum paints are made with

ALCOA ALUMINUM PIGMENT



TESTED IS TRUSTED

How does SLASHING change the tensile properties of your yarn?



Yarns "A" and "C" will not weave as desired

To control your yarn slashing—

1) Find out how much extension of the warp yarn is required for weaving—as for example, in the picturized line "B."
2) Be sure that, after sizing, the yarn graph conforms with the desired modulus.

Yarn "C" above, has not been extended sufficiently in slashing. Its over-elastic action in weaving may cause flaking off of the coating. Yarn "A" has been over-extended, tending to make it brittle and lacking in resiliency.

This test, produced on an IP-2 Incline-plane machine, is an excellent example of how *Scott Testers and their picturized charts provide exact knowledge and sure control at vital points in the production cycle.

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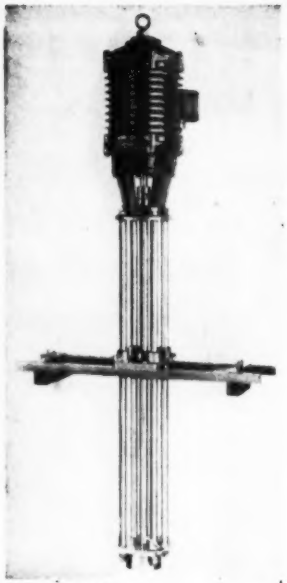
This mixer is extensively used for the processing of textile detergents and finishing compounds, color mixing and incorporating of pigments.

WHY?

The Homo-Mixer reduces particle size, increases total surface area, shortens batch cycles. Emulsifier and disperser. Easily sterilized and cleaned. Mixes in verticle planes. Prevents stratification and dead spots. Minimizes surface boil. Available in laboratory, pilot plant, and production sizes. Can be furnished with or without any type of tanks or kettles, including vacuum or air tight installations.



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We also manufacture Colloid Mills, Paddle and Agi-Mixers, and all types of Alloy metal kettles and tanks.

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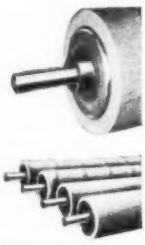

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*Reg. U.S. Pat. Off.

NEWS ABOUT *Mills*

Knitting Mills, now located in Canton, Mass., will be moved to Hickory.

Run-Prufe Hosiery Mills, Inc., Union, S. C., is remodeling building of more than 8,000 sq. ft., owned by Union Industrial & Development Corp., with reinforced concrete floors, bricked-up windows, insulated roof, new heating plant, sprinkler system, and new rest rooms. Machines are arriving and are being installed. Company expects to begin operations in near future.

Sanson Hosiery Mills, Inc., Chambersburg, Pa., is transferring operations to plants at Meridian, Miss., and Sevierville, Tenn. Building at Chambersburg will be sold.

Temple Full-Fashioned Hosiery Mill, Inc., has started construction on a 80x110 ft. addition to its Temple, Pa., plant. In it will be housed looping, seaming, boarding, and examining departments. Vacated space in the present building will be given over to eight new knitting machines. Air-conditioning is being installed.

Tricamp Corp., manufacturer of men's hose and misses' socks and anklets, has completed transferring main part of plant from New York to 50 Island St., Lawrence, Mass.

University Hosiery Mills, High Point, N. C., has transferred operations to plant in Durham. Henry A. Millis is president.

Wiscassett Mills Co., Albemarle, N. C., has let contract to Hickory Construction Co., Hickory, N. C., for one-story recreation building. Pease & Co., Charlotte, N. C., are engineers. Estimated cost is $189,570.

Dyeing and Finishing Plant News

Cold Spring Dyeing & Finishing Co., Inc., will reopen company in new plant at Beacon, N. Y.

Dundee Mills, Inc., Griffin, Ga., has begun test runs on new continuous dye range which has been installed in new addition by Lowell Bleachery South, Experiment, Ga. Tenter frame has been installed, and additional equipment is expected.

Lanett Bleachery & Dye Works, Lanett, Ala., is installing air-conditioning equipment in weave shed designed to keep constant year-round temperature of 80° F.

Pinatel Piece Dye Works, Ltd., Joliette, Quebec, has awarded $80,000 contract for one-story silk mill. Main building will be 160x112 ft., of concrete block and brick, with adjacent boiler room, measuring 30x44 ft. Lucien Durand, 576 St. Louis St., Joliette, is general contractor.

Rock Hill Printing & Finishing Co., Rock Hill, S. C., has work under way on expansion in boiler house at mill, which includes installation of new turbine, boiler, and auxiliary equipment. Cost reported close to $1,000,000.

Rockland Bleach & Dye Works Co., Brooklandville, Md., is erecting two-story addition to plant. Addition, which will contain 18,000 sq. ft. of floor space, will be ready for occupancy late this year.

Southern Bleachery & Print Works, Taylors, S. C., will install sewer system and sewage treatment plant. Contract was awarded to Peden Construction Co., Greenville, at a cost of $58,246. McPherson Co., Greenville, is architect and engineer.

Stephens Spinners, Brewton, Ala., announces plans for early operation of new dyeing and block-printing plant. Dye vats, drying equipment, blocking tables, and auxiliary facilities will be installed.

Su-Tex Dyeing & Finishing Co., 550 E. 31st. St., Paterson, N. J., is new firm soon to be in operation specializing in jig dyeing of satin lingerie, dress goods, and linings. Officers of company are former employees of Vermorel Piece Dye Works.

U. S. Finishing Co., Queen Div., Providence, R. I., will be moved to and incorporated into Norwich, Conn., plant which will then be known as Queen Div. of Norwich.

Van Dyeing & Finishing, Inc., formerly Bellingham Woolen Co., North Bellingham, Mass., is now being operated by Leo Vanasse. Company is doing commission dyeing and finishing of fabrics.

Your knitting will be smoother, faster, more profitable with

LAUREL

finishes

Laurel knitting finishes increase your production and improve the appearance of your knit goods. Laurel finishes are developed to meet the specific dyeing, bleaching and finishing requirements of all fibers and combinations. Laurel Technicians will cooperate with you, as they do with hundreds of leading knitters, in developing the right finishing formula for efficient and profitable processing. Write for recommendations.

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Hydrocop & 3B Softener • Hydrosol • Nylon Finishes • Hosiery Finishes • Synthetic Detergents – Diotrene T – Superterge L – Supergel RS • Stainless Knitting Machine Oil.

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It is not very practical to grease rings between doffs. This DIAMOND FINISH grease-retaining ring assures an ample supply of lubricant until the bobbin is full.

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DIAMOND FINISH

Makers of Spinning and Twister Rings since 1873

DANA WARP MILLS

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Cotton yarns, single and ply
Cotton warps, single and ply
Colored yarns and warps
Spun rayon—yarns and warps

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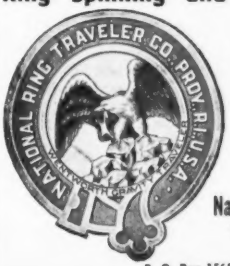

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Use ALL the facilities of the
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New Sample and Showrooms where your merchandise may be attractively displayed.

NEWS ABOUT Men

Samuel L. Abbott has been named president of Abbott Machine Co., Abbott Worsted Mills, and Hillsborough Mills, Wilton, N. H., to succeed his father, the late Edward J. Abbott, **William M. Abbott** has been named treasurer of Abbott Machine Co. and Abbott Worsted Mills.

Clifton Allen resigned recently as divisional superintendent of Wamsutta Mills and Crown Mfg. Co. **Richard F. Cook**, who has been assistant superintendent of Crown Mfg. Co., has been named superintendent.

George G. Allen, general superintendent of Cannon Mills plant No. 1, and assistant general manager, Kannapolis, N. C., will retire after 43 years with company. He will be succeeded by **Marshall M. Payne. Fred L. Wilson** will become assistant superintendent.

James H. Arthur has been named purchasing agent of American Yarn & Processing Co., Mount Holly, N. C., succeeding **C. Edwin Hutchison**, resigned.

Thomas M. Bancroft of Mt. Vernon-Woodberry Mills and **Harry Dalton** of American Viscose Co. have been appointed consultants to the textiles and fibers division of the National Security Resources Board.

Edwin E. Berliner, former president of textile converting company bearing his name, has been made head of New York office of Glasgo Finishing Co., Glasgo, Conn.

Arthur Besse was re-elected president of the National Association of Wool Manufacturers at the 84th annual meeting recently. Other officers include: vice president, **Franklin W. Hobbs**, William Whitman Co.; **Moses Pendleton**, American Woolen Co.; **Everett L. Kent**, Kent Mfg. Co.; **Frederic W. Tipper**, Cascade Woolen Mills; **Harold J. Walter**, Bachmann-Uxbridge Worsted Corp. Secretary-treasurer is **Walter Humphreys.**

Robert C. Bokum and **Edwin J. Owrid** have been added to the teaching staff of Philadelphia Textile Institute. Mr. Bokum will be a full-time professor of industrial management. A graduate of P.T.I. and Penn State, he also attended Harvard Graduate School of Business. He has been employed by Mohawk Carpet Mills, Proctor & Schwartz, Burlington Mills, and Tuftwick Corp. Mr. Owrid will be instructor in raw materials of the wool branch of the industry. He has been associated with several wool houses and was also buyer and salesman of wools for many years.

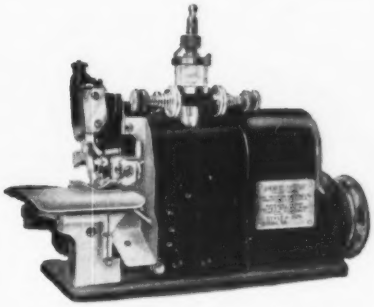
G. M. Blackburn has become manager of Guadalupe Valley Cotton Mills, Cuero, Tex. He was formerly superintendent of Dallas Cotton Mills, Dallas, Tex.

Prof. E. W. Camp will retire this year as head of textile department of Alabama Textile Institute, Auburn, Ala.

Lester R. Carrier has resigned as plant manager of Industrial Rayon Corp. Covington, Va., plant, after 23 years service with the firm. **I. T. (Ted) Meyer** has assumed his post.

Earl Constantine was re-elected president of the National Association of Hosiery Manufacturers at its annual meeting at Atlantic City. The following manufacturers were elected to the board of directors: **Ray F. Borda**, Rosedale Knitting Co.; **Carl V. Cline**, J. A. Cline & Son, Inc.; **Andrew J. Doyle**, Contour Hosiery Mills; **J. Frank McCrary**, McCrary Hosiery Mills, Inc.; **Reid A. Maynard**, Tower Hosiery Mills, Inc.; **Hugh L. Merritt**, Renfro Hosiery Mills Co. Reid Maynard was named chairman of the board. **T. H. Mueller**, Julius Kayser & Co., and **Hugh M. Grey**, Hugh Grey Hosiery Co., were named vice chairmen. **Sam Rubin**, Gotham Hosiery Co., was elected treasurer, while **Reuben Ball** was re-elected secretary.

Peter D. Cooper, vice president of Celanese Corp. of



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FRANKLIN, N. H.

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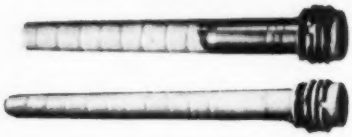

Above photograph illustrates conversion of an 8" Draper bobbin for use in an S-6 automatic loom in a weaving mill. Tip has been shortened and formed; butt turned down top and bottom and ferrule installed.

We have been of service to many well known mills in their conversion to automatic looms. Consult us for quotations and references on our work which includes:

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- **Tightening ferrules on any size bobbins;**
- **Installing brass tips on any size bobbins;**
- **Machining parts needed for setting up new equipment.**

We can make quick delivery of 7⅜" C & K type bobbins of solid "rock" maple with ferrule and corrosion proof rings specially designed for rayon, silk and nylon weaving. These bobbins are tested for straightness and are ideally suited to nylon. Samples on request.

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NEWS ABOUT *Men*

America and manager of acetate-rayon plant near Narrows, Va., will transfer to New York executive office. Mr. Cooper will be generally responsible for over-all plant operating efficiencies and economic planning of production at all company plants. **Samuel A. Mansfield** will become plant manager of operations at Narrows, succeeding Mr. Cooper.

William Danluke, formerly of Pittsfield, Mass., has become overseer of carding at Spa Yarn Co., Ballston Spa, N. Y.

David M. Finley, chief accountant of Bemis Bros. Bag Co., St. Louis, Mo., has been elected assistant secretary of company.

Manlio Frova, general superintendent of Berkshire Fine Spinning Associates, Inc., Providence, R. I., was recently elected vice president of company in charge of manufacturing. **John J. McMahon** was elected assistant secretary.

Samuel R. Fry, president of Narrow Fabric Co., Reading, Pa., has resigned as president of Valden Mills, lingerie manufacturing company of Reading, and **J. Lee Bausher,** president of Infants' Socks, Inc., has resigned as treasurer of Valden company. Valden Mills has changed name to Jean Vernon, Inc.

L. S. Fryer has joined Native Laces & Textiles, Inc., as vice president and member of the board, primarily responsible for operations. He was formerly vice president of Industrial Rayon Corp.

James L. Haggerty has been elected president of Northmont Hosiery Corp., Reading, Pa. **William H. Collier** was elected vice president; **John H. McGlinn,** secretary-manager; and **B. Dewey Good,** treasurer.

Harry Hanks is now superintendent of warp preparation at Borden Mills, Kingsport, Tenn. He formerly was with Pacific Mills and Dan River Mills.

Richard R. Higgins has been elected executive vice president of Kendall Co., Boston, Mass. He was formerly vice president and treasurer.

Allie Holt, Danville, Va., has accepted position with new worsted plant of Pacific Mills, Drakes Branch, Va.

Giles E. Hopkins has been appointed by The Wool Bureau, Inc., as technical director of the Bureau's expanding program of research. The technical program will lay special emphasis on studies of wool fiber and the correlation and interpretation of laboratory research for the manufacturing branch of the industry. The research program was initiated last November at the Princeton laboratories of the Textile Research Institute.

Edward C. Horner, Sterling Cotton Mills, Franklinton, N. C., was elected chairman of the Southern Textile Assn., eastern Carolina Div. Other officers elected were **J. R. Meikle,** Patterson Mills, vice chairman; **J. E. Shaw,** Rosemary Mfg. Co., secretary; and **William A. J. Peacock,** Borden Mfg. Co., member of the board of directors.

Alfred L. Hutton, Jr. has retired as president and director of Hemphill Co. He started with the company 33 years ago and had been president since 1938.

John Jamieson has become superintendent of Orr Felt & Blanket Co. Piqua, O., succeeding **H. Hankins,** of St. Hyacinthe, P. Q.

W. R. Johnston, superintendent at Somersville Mfg. Co., Somersville, Conn., has resigned and returned to Hayward-Schuster Woolen Mills, Inc., East Douglas, Mass.

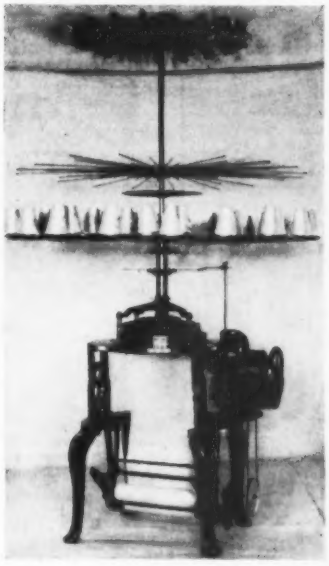
George Kaminow has joined Kaminow Bros., New York, manufacturers of novelty yarn and converter of cotton and rayon yarn.

Robert H. Kridel has joined Bethlehem Silk Co., Bethlehem, Pa., to organize rayon flat-goods division. He formerly was with Native Laces & Textiles, Inc., Highstown, N. J.

Edward N. Lamson, banking official, has been named president of the Wannalancit Textile Co. He succeeds the late Dr. Louis A. Olney.

Fred T. Lawson, formerly with Robbins Mills, Robbins, N. C., has become superintendent of Harris Mills, unit of Greenwood Mills, Greenwood, S. C.

Harold W. Leitch and **Frederick S. Whiteside,** Pacific



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Established 1846

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Two exclusive features Affording Long Life

1. Automatic - bobbin holders equipped with holding wings electrically hardened all the way through.
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We make holders for ¾" to 2½" bobbin heads, including large-package wood and paper bobbins, also special bobbins. Duplex holders take both automatic and non-automatic bobbins.

Holders for all types of mules, frames, twisters and winders.

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For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand, Transfer Points and Welt Hooks for Full Fashioned Machines; Slides, Sinkers, Jacks, Guides or Flat Eyes, Sley and Milanese Points, Transfer Points or Quills, etc.

Sheet Metal Specialties to Order

NEW BRUNSWICK NEW JERSEY

MODEL 31

HEAVY DUTY GEAR TYPE SEWING HEAD

for piece-end, or tacking woolen and worsted cloth. Motordrive—motor mounted on column, Strips cloth automatically. Can be equipped to make any length of stitch from ⅜" long down to 7 stitches per inch.

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Explosion proof motors with non-sparking blades available for all popular sizes. Write Dept. D-1 for industrial bulletin No. 864 describing fan applications, fan uses and other pertinent information, and for catalog on Industrial Fans. Charter member of the PROPELLER FAN MANUFACTURERS' ASSOCIATION
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WOOL SILK COTTON

WATSON-WILLIAMS MFG. CO. Millbury, Mass.

NEWS ABOUT *Men*

Mills, made a survey of European research centers this spring, in connection with the Pacific converter.

William R. MacLeod has become treasurer of Wilkes-Barre Lace Mfg. Co., Wilkes-Barre, Pa., and of Clarence Whitman & Sons, Inc., New York. Mr. MacLeod was formerly assistant treasurer.

Carl C. Mattmann has resigned as director of fabric development at Textron, Inc. **Kenneth A. Seward**, assistant director since 1946, has been named to the post.

George D. McKinney, Jeannette Hosiery Mills, Inc., was re-elected president of the Independent Association of Stocking Manufacturers at the annual meeting in Philadelphia. Three vice presidents elected at the annual meeting were: **Howard Faust**, Gold Seal Knitting Mills; **Clarence Mesirov**, Ruby Ring Hosiery Mills; and **Ray Hubler**, Wel-Wear Hosiery Mill. Other officials elected were: treasurer, **R. E. Ives**, Bethayres Knitting Mills; executive secretary, **Edward M. Rand**, Philadelphia.

Ellison S. McKissick, Alice Mfg. Co., Easley, S. C., is the new chairman of the board of government of the ACMA. He succeeds **Harvey W. Moore** of Brown Mfg. Co., Concord, N. C.

Roger Milliken, president of Deering Milliken & Co., was re-elected chairman of the board of the Institute of Textile Technology in Charlottesville, Va., at its annual meeting recently. Other officers elected include: **Joe L. Lanier**, West Point Manufacturing Co., vice chairman; **Ward Delaney**, Charlottesville, reelected president; **Arthur M. Allen**, Providence, R. I., re-elected secretary; **Norman E. Elsas**, Fulton Bag and Cotton Mills, re-elected treasurer. At the annual membership meeting which was held prior to the board meeting, eight men were elected to the board of trustees: **T. M. Bancroft**, Mt. Vernon-Woodberry Mills; **Herman Cone**, Cone Mills Corp.; **Julian T. Hightower**, Thomaston Mills; **Charles H. Merriman, Jr.**, Crompton-Shenandoah Co.; **Charles B. Nichols**, Appleton Co.; **R. W. Philip**, Callaway Mills Co.; **Walter Regnery**, Joanna Cotton Mills Co.; and **S. H. Swint**, Graniteville Co.

William Myers, Jr., has resigned as vice president and general manager of U. S. Finishing Co., Norwalk, Conn., to assume executive and administrative duties with Joseph Bancroft & Sons Co., Providence, R. I.

J. V. Nelson, formerly superintendent of Alexander City, Ala., Avondale Mills plant, is now general manager of Dunson Mills at LaGrange, Ga.

Charles L. Patchin, Firth Carpet Co., Auburn, N. Y., has been elected national director of Purchasing Agents Association of Syracuse and Central New York.

Eugene Popp and **Joseph P. Hanc** have sold their interests in La Francaise Dyeing & Finishing Co., Paterson, N. C., to **Li di Petrillo**, president of company, and **Joseph J. Riva**, treasurer.

Paul Redmond, Jr., Alabama Mills, Inc. Birmingham, was elected president of Alabama Cotton Manufacturers Assn. in April, succeeding **Bert G. Stumberg**, Mt. Vernon-Woodberry Mills, Tallassee, who becomes chairman of the board.

David Roberts, Spartan Mills, Spartanburg, S. C., was elected chairman of S. C. section of STA. **J. C. Godfrey**, Calhoun Mills, was named chairman of carding and spinning group.

Robert E. Stevenson has joined the National Cotton Council as a member of its technical service department. **Caffey Robertson**, Memphis cotton merchant, will serve as special foreign trade adviser to the Council.

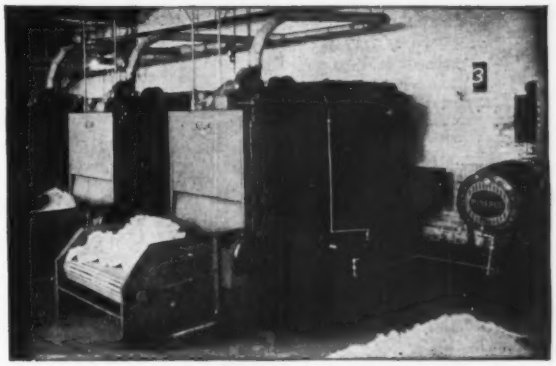
I. N. Stronach has resigned as superintendent of American Thread Co. and Hampton Co., Easthampton, Mass., and will retire after 30 years service. He will be succeeded by **Charles W. Taylor.**

William F. Sullivan has resigned as superintendent of Dorr Woolen Co., Guild, N. H., to accept position with John T. Slack Corp., Springfield, Vt.

Eugene F. Sweeney, vice president and general manager of Firestone Textiles, Bennettsville, S. C., was honored with a dinner recently on the 25th anniversary of his service with the company.

H. C. Thompson, formerly

MINEROL FIRST and FOREMOST CONDITIONING AGENT for Textile Fibres.



● **MINEROL** is a prepared agent for conditioning textile fibres..a systematic Process of Spraying Natural and Dyed Raw Stock. ● **MINEROL** helps to separate long fibres from the short. It saves *good fibres* and prevents waste. It makes fibres more supple..more pliable. ● **MINEROL** provides *control* of conditions caused by static electricity. It protects the cards and preserves the wire. ● **MINEROL** prevents Dust and Fly..safeguarding health and insuring better working conditions. ● **MINEROL**..as a conditioner is more urgently in demand thru the increased use of staple Cut Rayon and its varied combinations with cotton, wool and other fibres.

BRETON MINEROL PROCESS

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Originators of the BRETON MINEROL PROCESS for CONDITIONING FIBRE

ELIZABETH, N. J. *75th Anniversary* CHARLOTTE, N. C.

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SOUTHERN REPRESENTATIVES

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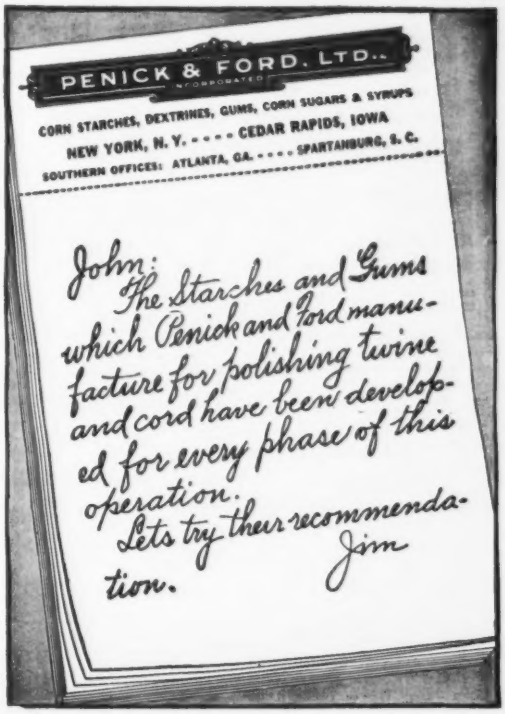
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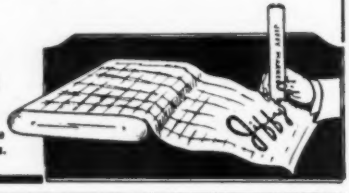

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NEWS ABOUT MEN

superintendent at George Watt Woolen Co., Norristown, Pa., has resigned to accept position as demonstrator with General Dyestuff Corp.

Fred V. Weeks, industrial engineer, has been made manufacturing superintendent of the Parkersburg plant of American Viscose Corp. He succeeds the late Arthur H. Mergy.

Herman L. Weisler, former general manager of Barbet Mills, Inc., has been appointed general plant manager of Natona Mills, Inc., Dallas, Pa. **John H. McCusker**, former manager of Natona, is now general manager of dyeing and finishing operations at the Dallas plant.

Jordan W. Wenberg, formerly with Yorkshire Worsted Mills, Lenni Mills, Pa., has become general superintendent of Atlantic Knitting Mills, Providence, R. I.

Dr. Robert E. Wilfong, Dr. Linton G. Ray, Jr., and **Dr. John P. Wilkins** have been appointed research engineers at Rayon Technical Div. of E. I. du Pont de Nemours & Co., Wilmington, Del. **Dr. Charles E. Sparks**, research supervisor in rayon pioneering research section, Buffalo, has been transferred to Wilmington as coordinator of dye work on fibers and will be liaison man with Organic Chemical department group.

OBITUARY

Edward J. Abbott, 64, president of Abbott Machine Co., Abbott Worsted Mills, and Hillsborough Mills, died in April. He held more than 100 patents for various textile machinery developments, among the most widely adopted of which are the circular winder and dyeing machine.

Ben T. Comer, Sr., president of Comer Machinery Co., and a partner in Comer-Whitter Co., manufacturer of textile machinery, died April 29.

Willard H. Dow, 52, president of Dow Chemical Co., died with his wife and others in a plane crash in April while en route to Boston, Mass. During the war he served as advisor to the Munitions Board in Washington.

Charles M. Epstein, founder and president of Liberty Throwing Co., died recently. He entered business in Wilkes-Barre, Pa., and in 1935 moved the company headquarters to New York.

Walter U. Gutmann, 79, who had been connected with Worumbo Mfg. Co. all his business life, died recently. He was chairman of the board of the company.

James Shubal McAllister, one of the founders of the Nantucket and Libby Mills in 1898, who later became secretary-treasurer of both firms, died recently at Greensboro, N. C.

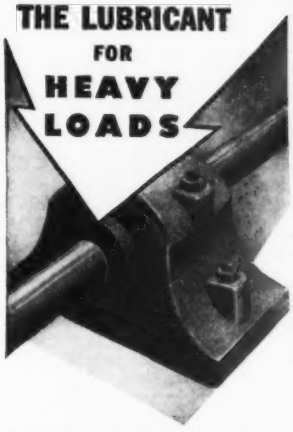
George McGeachin, 78, president of Witcombe, McGeachin & Co., died recently

FERDINAND THUN, 83, co-founder with Henry Janssen of Wyomissing Industries, one of the world's largest textile enterprises, succumbed at his home near Reading, Pa., after an illness of three months. Wyomissing Industries includes Berkshire Knitting Mills, Textile Machine Works, and Narrow Fabric Co. Until the first of this year he was active as president of the Berkshire mills.

at Stamford, Conn. He was one of the organizers of the Upholstery Association of America, and served for a time as president. He was instrumental in starting the Textile High School in New York City.

Clinton T. Revere, 79, author of a widely circulated market letter dealing with cotton, and member of the firm of Laird, Bissell & Meeds, died May 8. From 1907 to 1938 he had been connected with cotton-brokerage affairs

John F. Scott, Sr., 58, president of Scott Hosiery Mills,



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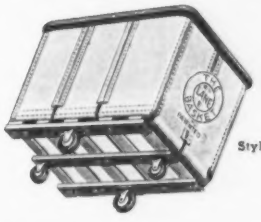

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Caldwell TANKS AND TOWERS

NEWS ABOUT Men

Continued

died recently after a long illness. Formerly with Danneman Hosiery Mills, he founded his own firm, a full-fashioned mill, in 1935.

Henry Stringham, president of Utah Woolen Mills, died April 13 in Salt Lake City. He was connected with Knight Woolen Mills and with Federal Sweater Mills prior to acquiring an interest in Utah Woolen Mills in 1924.

Herman Yanowitz, 51, president of Elvine Knitting Mills and Herald Knitwear Co., died in April. He started in the knitwear business with a one-machine shop in 1921.

Lester E. Badmington, 59, president of Sugar River Fabrics, Inc., died in April.

Frederick Clark Hall, 71, since 1938 treasurer of Old Colony Mills, died in Taunton on April 12. Among the mills he managed in his 40-year career in the industry were Nemasket Mills, Manville-Jencks Mills, and Amoskeag Mfg. Co. mill at Manchester, N. H. He had also been treasurer of Granite Mills and superintendent at Dan River Mills. He founded and managed briefly a mill in San Salvador in 1937.

Col. Joseph H. Pelot (USA ret.), 63, executive assistant to the president of Crompton & Knowles Loom Works, died recently. He was also a director of C & K Jacquard & Supply Co.

E. O. Steinbach, 58, vice president and general manager of Mayfair Mills, died April 13. He had at one time been an official of Aragon-Baldwin Cotton Mills.

Lafayette Cooper Smith, 50, general manager of Columbia (S. C.) Mills for the past 21 years, died April 26. Prior to his connection at Columbia, he had been associated with West Point Mfg. Co. at Shawmut, Ala.

George W. Sutcliffe, 71, chemist and dyer in several New England mills prior to his retirement, died April 19. A native of Worcester, Mass., he graduated from Brown University in 1899.

Horace B. Burke, 44, general manager of the Wehadkee Yarn Mills, Talladega, Ala., died recently.

Fred N. Carter, 35, production manager of Peerless Woolen Mills for the past 11 years, died recently.

Ishmael W. Carter, 74, former superintendent of Berkshire Fine Spinning Associates and other New England cotton mills, died in Rhode Island recently.

Clarence F. Decker, 47, superintendent of the rayon division of Virginia Mills at Swepsonville, N. C., died in April.

David Dupre, 67, maintenance superintendent at Carleton Mills, Inc., Rochdale, Mass., died recently in Worcester, Mass.

Robert Knight Eaton, 65 former acting dean of Clemson Textile School, died recently. After graduating from Bowdoin College in 1905, he studied at Philadelphia Textile Institute and became a textile engineer successively with Whitin Machine Works and Cabot Mfg. Co. He served on the textile faculty at Clemson from 1923 until his retirement Feb. 1, 1949.

William Albert Green, 60, former superintendent of Chautauqua Worsted Mills, died in April.

Patrick F. Hanlon, 60, former superintendent of Glencrest Mills, died April 22.

John S. King, 59, former superintendent of Easley Mill and more lately superintendent of Woodside Mill, died in South Carolina recently.

Smith Styles, 47, superintendent of preparation department of Judson Mill, died April 24.

Eugene Tatro, 57, former superintendent of dyeing at Stephens Spinning, Manchester, N. H., died recently. He was past president of the National Association of Woolen and Worsted Overseers, and was honorary member of three other overseers' associations.

Hugo Cameron, 60, overseer of dyeing at the Globe Mills of the American Woolen Co., Utica, N. Y., died recently. He had been with the company since 1939.

Arthur D. Steere of Cranston, R. I., died April 29. He had been employed as a foreman at the Cranston Print Works for 25 years and retired in Jan., 1946.

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Here are detailed instructions on the practical setting, adjusting, and timing of modern looms. Step-by-step, this guide gives you instructions on all phases of cotton loomfixing. If you want a complete course in loomfixing, or only a refresher to broaden your knowledge and increase your skill COTTON LOOMFIXERS' MANUAL will fit your needs to a "T". In this one book you get complete coverage of important subjects such as: left-off, harness, picking, warp-stop, filling-stop, and protector motions; loom construction; filling feelers; cutters; box multiples; shuttles and many others.

2. RAYON TECHNOLOGY

Handbook for Textile Mills

By the Technical Research Department of American Viscose Corp.

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Seventeen experts in the field show you the best ways of processing rayon on your own mill machinery. This handbook discusses actual working conditions . . . shows how best to use equipment; analyzes the specific problems likely to arise in using rayon staple, and brings you practical methods for solving them. It covers winding, throwing, warping, slashing, quilling, and weaving operations, in all divisions of the industry. RAYON TECHNOLOGY discusses the construction of rayon fabrics, both those made of continuous filaments, and those made with continuous filaments supplemented by spun yarns . . . everything you want to know about processing rayon.

3. STAPLE COTTON FABRICS

Names, Descriptions, Finishes and Uses of Unbleached, Converted and Mill Finished Fabrics

By JOHN HOYE, Instructor New York Textile Evening Trade School

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Here's an encyclopedia of staple cotton fabrics showing you how to identify these fabrics, how to make them, how to finish them, and how to use them. It's an authoritative reference manual of specific trade and technical information on staple American cotton fabrics—designed for use by all concerned with the manufacture, sales and use of these goods. STAPLE COTTON FABRICS covers all types of cotton fabrics . . . unbleached, converted, and mill finished . . . used in garment manufacture and industrial trades. It gives you trade descriptions, illustrations, details of construction, yarns, weaves, etc.

4. PRINCIPLES OF KNITTING

by MAX C. MILLER, Designer and Inventor of Knitting Machines and Fabrics

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Principles involved in the production of knitted fabrics; descriptions of the mechanisms used; and the various garments produced are covered in this practical guide. PRINCIPLES OF KNITTING describes in detail: circular and flat machines, regular and warp fabrics, the principles underlying the various loop structures, their application in various types of machines from earliest days down to the present. Illustrations spotlight the features and important facts about these topics. With this book as a guide you'll gain a clear understanding of the design, uses and advantages of present day knitting machines.

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(Continued on page 294)

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(Continued from page 293)

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manufacturing fine cotton goods, rayons, upholstery or pile fabrics. Will retain present management.

Please submit complete information with current balance sheet and record of past earnings. All replies will be held in strict confidence.

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WEAVING BUSINESS

A Jacquard plant weaving a fine grade of upholstery fabrics with a substantial backlog of orders, located in the South having the following equipment:

66 Crompton & Knowles 72" 4 x 4 looms equipped with 1300 hook Jacquard machines.

24 Draper automatic looms about 72" reed space, 16 of which are equipped with 600 hook Jacquard machines.

Complete set of beaming and quilling equipment and a Barber-Colman K model portable tying-in machine and other auxiliary equipment.

Complete office equipment and a large supply of all spare parts, also all Jacquard patterns. Excellent buy for new organization.

Our selling organization can take care of your sales problems, if necessary.

BO-8958, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED - CHEMICALS

Dyes—Colors—Pigments
Oils—Waxes—Drugs
By-Products—Wastes—Equipment

CHEMICAL SERVICE CORP.

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DYESTUFFS

Will buy your surplus and obsolete dyes and chemicals for cash.

NEW ENGLAND PRODUCTS CO.

91 Oliver St. Boston Mass.

WANTED

Six - Eight - Ten Foot Stainless Steel Piece Dye Kettles for Worsted Jersey Cloth. Give full description, make and type of reel.

W-8918, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED TO BUY

2—168" 28 gauge Fast Tricot Machines

Either Reiner, Aveco, or Whitin. State lowest price and what year make.

W-8449, Textile World
330 West 42nd St., New York 18, N. Y.

BOILERS

Complete 1700 HP Boiler Plant

Consisting of 2—605 HP & 1 505 HP Wickes 3-drum low-head water tube boilers with Detroit Roto Stokers, all fittings, connections, pumps & breeching.

Also 8-Kewanee locomotive type Boilers, 63.7 HP, for 100# & 150# W. P.

Contact
GREEN & REEDY
Phone 10-J Franklinton, Louisiana

BRAIDERS & NEOPRENE TAPE

32 21-carrier #1 full elastic braiders in very good mechanical condition, equipped with bottom latch carriers, cold roll cross bar, three roll take-up, side can take-off and mounted on short legs at $25.00 each.

Approximately 2,424 lbs. 3/4" x 58 flat neoprene tape made by the B. F. Goodrich Company, put up on pancake rolls at 75c per lb.

The above braiders and neoprene tape are offered subject to prior sale.

ELASTIC FABRICS, Inc.

Centreville, West Warwick, R. I.

100 BANNER HOSIERY MACHINES

116-176-200-220 Needles. Also 40 Hosiery Ribbers will be sold very reasonable. Good industry for a small town or export.

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FOR SALE

1—60" 4 Roll Friction Calender (Textile) . $3,000.00
1—60" 3 Roll Plastic Calender (Van Vlaanderen) $2,500.00
1—30 Spindle Lazenby Cop Winder, Junior T, 1948 Model $2,500.00
1—Portable Morrow (60ABB) Sewing Machine and Curtis & Marble Table ... $ 125.00
1—2 H.P. Explosion Proof 220 Volt Motor . $ 100.00

FS-8908, Textile World
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BRAIDING PLANT FULLY EQUIPPED

230 Narrow Fabric Machines
LOCATED MIDTOWN, NEW YORK
Write Box 7751 217 - 7th Ave., N. Y.

FOR SALE

SACO-LOWELL CONTROLLED DRAFT DRAWING

32 deliveries with static eliminators. 3 lap winders. 220 volt motors. In excellent condition.

FS-8957, Textile World
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Don't be a "slave" to high prices or delays when it comes to getting Quality Textile Machinery and Equipment. Follow the custom of other experienced textiles operators who buy from ◂MLC▸ because they know they get *certified* value from a Company of long-established reputation for fair dealing and prompt service.

HONOR ROLL

NEW ENGLAND TAKES THE LEAD

New England was actually the first to promote the merchandising of slaves in America, bringing them from Africa to supplant Indian slaves—but soon, when the horrors of the traffic appalled the Puritan conscience, New England was the FIRST to take steps to end the custom. So the use of slaves in the textile industry never took root in the North as it did in the cotton fields in the South.

"Certified for Leadership"

No. 12 of a Series

ALL ◂MLC▸ "Certified" Opportunities

1—72" C & M 2-cylinder Brushing machine
1—41½" Knit goods calender, stainless steel rolls with motor Reeves drive
1—44" 2-roll Schreiner Calender
1—46" 7-roll Textile Hydraulic Calender
1—47" 3-roll Heavy Duty Friction Calender, motorized
1—51" 11-bowl Hydraulic Chasing Calender, 3 chilled iron steam heated rolls, 7 cotton rolls, one cast iron roll
1—61" Textile 3-roll Calender, gear motor driven with speed reducer
2—New 3-cyl. Set of 60x60 D&F Cards, with #25 breast, Bramwell feed, double apron, tape condensers
13—8 Head Whitin D-2 Combers with Roth Aspirators and 2 Ribbon and 2 Sliver Lappers, 12" Coilers
5—C&M Flock Cutters
1—54" x 60" D&F 2-cylinder Iron Shoddy Cards with feeders
1—65" C&M Dewing Machine, motor driven
4—100 sp. Foster Doublers
1—60" Windle 3C Doubling and Boarding Machine, motor driven
1—64" P&W Doubling & Rolling-up Machine with clock
1—Set 6—48" Copper Tinned Siphon Dry Cans, with hatcher
1—Set of 31-40" face Butterworth Dry Cans
1—Set 30 copper Dry Cans, 23" x 123", in 3 vertical stacks
1—40" Schofield Box Duster with fan
1—48" Schofield Auto. Box Duster
1—Morrison 16 string s/s Dye Beck
1—96" P&S Loop Dryer
2—48" V. VL Stainless Steel Dye Jiggs motor driven
3—32" Werner S/S lined Die Jiggs
1—36" C&M Duster
1—7" D&F Iron Cone Duster with Feeder
3—18", 26", 32", 48", 54", 60" Extractors.
3—40", 42" E&H Flat Folders with take-up stands
1—Rodney Hunt M3, 2 string fulling mill, belt driven
10—40", 65" card and Napper Grinders
1—83" Roy Napper Roll Grinder
100—40" Draper Model K 20 Har Dobby Looms
90—45½" reed speed space Model E Draper Automatic Looms with lacey tops 3 bank stop motions, warm take-up, belt driven
50—44" cloth width Draper Mod. E Auto. Rayon Looms, 4 harness cam motions, motor driven, rebuilt 1947
40—47½" r.s. Draper Model K 20 harness Dobby Looms
100—52" r.s. C&K 2x1 Auto. Silk Looms, 16 harness, motor driven
4—60" r.s. C&K 4x4 Looms, 20 harness dobbies and 1304 hook Jacquards, motorized
58—43" r.s. Draper Model X Looms, with 39" sand rolls, Brown 4 harness tops, motor Driven
20—54" Draper Model E Looms, with 16 and 20 harness double index dobbies, motor driven.

PRINTING EQUIPMENT

2—NEW 60" R. B. F. 6 Color Printing machines suitable for large pattern work
2—NEW 50" R. B. F. 12 Color Printing machines

W-3 LOOMS AND SUPPLIES

35—New 72" W-3 C&K 4x1 box, 25 harness Looms

COMPLETE MILL UNIT PROFIT OPPORTUNITIES

- 3—Six to Fourteen Set Woolen Yarn Mills
- A Woolen Piece Goods Finishing Plant
- 3—Worsted Units
- 6—Cotton Mills, 3,000-100,000 Spindles

5000 Spindle Cotton Mill Balance on #10's Combed Yarn
9500 SP. Cotton Mill with 70 Draper Broad Looms
- 105 Looms Narrow Fabric Weaving Plant for Ribbons, Tapes and Labels. Complete with Warping, Dyeing and Finishing Equipment

400 Needle Hosiery Mill
30 Loom Label Weaving Mill

PRICED RIGHT

96—Hopedale Rayon Looms weaving 40" width cloth, motor driven. Reconditioned 1947.
4—High Speed Clutsom Shuttleless Narrow Fabric Looms, motor driven with supply of beams and spare parts. Operated six months.

20—54" Draper Model E Looms with Lacey tops, motor driven
12—70½" r.s. C&K 4x4 Looms, 25 harness, motor driven
6—82" C&K 4x1 Auto. Looms, 16 harness, motor driven
1—Schofield Lumber
1—48" C&K 4x4 box Loom, 25 harness, belt driven, friction clutch
14—54½" C&K Box 20 & 25 Harness Dobby Looms
16—72" Draper Mod. D 16 Harness Looms
40—88" B.S. Draper Mod. L. Looms
2—74" Heavy Duck Looms, roller top
14—82" C&K 2x1 automatic Looms, 8 harness cam motion, motor driven
8—100 C&K 2x2 Box Auto. Looms with Baker 3-mix attachments, 25 harness gem heads
6—110" C&K 4x4 Box Looms, 25 harness, belt driven
3—66" P&W 60 & 100 yd. Measuring Machines, belt driven
1—70" King & Gerber Tubing Machine with Veeder-Root counter
2—240 SP. J.&B. 1⅞ Ga. Mules
2—240 Spindle J.&B. 2" Gauge Mules
2—New 360 Sp. D&F Mules, 2½" gauge
2—360 sp. D&F Mules, 2½" gauge, 1946
7—61", 66", 72", 80" Single & Double Acting Nappers
75—New Leland & Westinghouse ½ and 1 HP 3/60/220 V Heavy Duty Motors. Also various size Rebuilt Motors
1—30 x 30" Mezerra Wool Opener
1—48" D&F 2-cyl. Wool Opener with Feeder
7—52", 65½", 66", 70", 86" Voelker and Gessner, single and double bed Rotary Cloth Presses.
1—48" C. D. Sargent Burr Pickers
3—48" & 54" Fearnaught Pickers
1—66" Rodney Hunt 2-roll Padder, motor driven, 1947
1—Rodney Hunt Acetate Presetting Equipment
4—45" 2 and 3 roll Padders.
1—76" 3-roll Padder
1—72" 2-roll Quetch with flat folder, Reeves drive and motor.
4—50 spindle Lindsey-Hyde Adjustable Reels
5—82", 92", 96", and 100" D&F Reels, with creel, back stand, neck reed, warp reel beamer and warp compresser
1—50" Hermas Shear with C&M Stitcher
1—63" Textile Finishing 4-burner Gas Singer
1—117" 4-burner Singer, air guiders, 2-roll quetch box
8—New 120 sp. D&F 6½" gauge spinning Frames
14,268 sp. Mason, Whitin, F&J and Saco-Pettee 2¾" and 3" gauge band driven Spinning
3—60" P&W Single Blade Woolen Shears
1—66" Parks & Wilson single Blade Flush Shear
11—96½" P&W 2-blade Shears
1—76" C&M Double Blade Shears
1—80½" P&W Single Blade Shears
1—66" Johnson 7-can Silk and Rayon Slasher, with s/e drums, quetch, stretch control, Taylor Instrument control on the cylinder, motor driven.
1—Cameron Model 26 Slitters, motor driven
1—42" Firsching 20-knife Slitting Machine
2—Lowell 2-cylinder Slashers
1—40" Textile Clip Tenter, 60" opening with Housing
1—40" C&M Single Brush type Tiger
1008 Sp. S.L. 3" Ring Band Driven Twisters
3—80 Spindle Hopedale Band Driven Twisters 4¼" ring, 5½" ga. Belt driven
4—180 Sp. Draper 2¼" Ring Wet Twisters.
1—144 Sp. Whitin 3" Ring Wet Twister.
1—220 spindle H&B 1⅝" ring Wet Twister
2—8-string Hemmer Wool Washers
7—100 Sp. Foster Model 12 12A 21A Tube & Cone Winders
1—60 Sp. Foster Model 30 Cone Winder

MANY OTHER UNITS WITH PROFITABLE PRODUCTION POSSIBILITIES. PLEASE OUTLINE YOUR REQUIREMENTS. SEND FOR COMPLETE DETAILED LIST OF MACHINERY FOR SALE.

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This Machinery is MOVING FAST!

15 Atwood Monarch 1938 D. Deck Twisters

208 Spindles Each, 8 Oz. Capacity. 2 Motors Per Machine, 3 Phase, 220-440 Volts.
Excellent Bobbin Equip.

5 Atwood Monarch Single Deck Twisters

100 Spindles Each, 8 Oz. Capacity, Individual Motor, 3 Phase, 220-440 Volts.
Bobbin Equip.

9 Fletcher 5" Spacing 5-Bs INDIVIDUAL MOTORIZATION

84 Spindles Each—Excellent Bobbin Equip.

Also: Yarn Conditioning Box, Coners, Winders, Redraws, Spools, and Many Items Too Numerous To List.

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"CONSOLIDATED" OFFERS

1—Morrison 16-string Stainless Steel Dye Beck.
1—Rodney Hunt 2-Roll 66" Padder.
1—Rodney Hunt Wring Master. 78", R.C. Rolls.
1—Phila. Textile 3-Bowl 72" Scouring Machine.
4—Allen 5-Ton Kiers.
8—60" Stainless Steel Cans.
2—Hussong 500 lb. Raw Stock Dyeing Machines.
1—4-Roll 80" Calender.
1—Smith & Furbish Willow with Ceiling Condenser.
14—Crompton & Knowles Axminster Looms.
1—66" Ball Bearing Button Breaker.
2—Textile Finishing 60" Embossers.

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From a single item to a complete plant
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MACHINERY FOR SALE *Immediate Delivery*

40—Draper Automatic Dobby Looms
2—Werner Dye Jigs 52"
4—3 roll Padders 45" wide
1—44 Can Machine 50" wide
1—3 roll Padder - 76"
2—Tenter Frames VV-40' & Butterworth 80'
2—Tubers
55 Dye Boxes
3—Universal Tubers ±50
24—C&K 72" Automatic Bobbin changer, 2x1 silk & rayon looms, intermediate heads, 20 hook, motor driven, roller bearing, built in 1925, 11,000 serial numbers.
4—Hermas Inspecting Machines
5—Sipp-Eastwood Warpers 84"
5—C & K 72" Looms Worsted 4x4 motor driven
6—C & K 82" Looms Wool 4x4, motor driven

MACHINERY CAN BE INSPECTED IN OUR WAREHOUSE

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Used Textile Machinery and Supplies

BOUGHT AND SOLD
Warpers • Winders • Quillers
Looms

DYE SPRINGS

MANUFACTURED IN ALL THE METALS
EXPERTLY RE-WOUND AT A REAL SAVING
SOLD IN GOOD USED CONDITION

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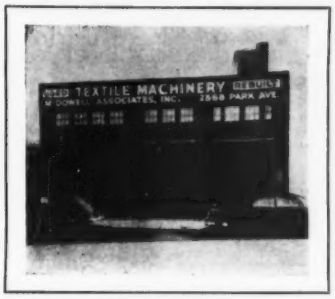

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McDOWELL ASSOCIATES

ONLY A PARTIAL LIST

DYEING AND FINISHING

1 BATCHER 58½" Simpson type
1 CAUSTIC BLEACHING AND SHRINKING STEEL TANK 63" with immersion rolls, SQUEEZE SET, automatic valve
1 UP AND DOWN WET BRUSH 66" ON BRISTLES
1 CLOTH BRUSHING MACHINE 2 roll 66", motorized
1 CALENDER ROLLING HEAD 48" heated
1 CALENDER FRICTION 3 roll 43½" New Paper Roll
1 CALENDER 5 roll 45" screw and lever
1 CALENDER 3 roll 50" screw and lever
1 CALENDER 7 roll 50" screw and lever
1 CALENDER 3 roll 100" screw and lever
1 CALENDER EMBOSSING NEW 45", motorized
1 CALENDER EMBOSSING 54", motorized
1 CLOTH CARBONIZING DRYER WITH ACID TANK 70" CLOTH 1947 model, motorized
2 COATING MACHINES 40' x 60", motorized
1 CHINCHILLA MACHINE 60", Belt drive
1 DEWING MACHINE 66" Feed tank, trough, motorized
1 DOUBLING, WINDING & MEASURING MACHINE 72", motorized
1 DOUBLING, WINDING & MEASURING MACHINE 66"
1 DOUBLING, WINDING & MEASURING MACHINE 50"
1 DOUBLING & WINDING MACHINE 80"
1 SET 21 DRY CANS 72" hor zontal
1 SET 31 DRY CANS 95" horizontal
1 SET 12 DRY CANS 144" hor zontal
1 PIN TENTER DRYER 72" Guiders, new chain
1 PIN TENTER DRYER 78", fans, housing, motors, etc.
1 SKEIN DRYER CONTINUOUS, 108", housing, fans, motors, etc.
1 DRYER RAW STOCK 3 tier agitator type
1 DYE KETTLE 6' stainless steel enclosed, motorized
1 DYE KETTLE WOOD BOX LINED 9', motorized
1 PACKAGE DYEING UNIT, sta nless steel, 80 spindle, motorized
2 DYEING UNITS RAW STOCK 500 lbs. each
3 DYEING UNITS SKEIN HOIST TYPE 20 and 40 stick, motorized
1 EXTRACTOR 32" COPPER BASKET, belt driven
1 EXTRACTOR 54" COPPER BASKET, OVERHEAD MOTOR DRIVE
2 EXTRACTORS 60" COPPER BASKET, SIDE MOTOR DRIVE
2 EXTRACTORS 72" COPPER BASKET, VERTICAL MOTOR DRIVING UNDERNEATH
1 EXTRACTOR 96" COPPER BASKET, VERTICAL MOTOR DRIVING UNDERNEATH
1 EXTRACTOR VACUUM 78" PUMP, motors complete
3 FOLDERS 1 YARD 40"—58"—60"
1 FULLING MILL #20, DOUBLE COMPARTMENT, motorized
2 FULLING MILLS, DOUBLE COMPARTMENT, belt driven
4 INSPECTING AND WINDING MACHINES 60" type A ROLLING HEADS
1 INSPECTING AND WINDING MACHINE 100" type A ROLLING HEAD
14 JIGGS 50" STAINLESS STEEL, motorized
2 JIGGS 60" STAINLESS STEEL, motorized
1 KAUMACRAPH NEW 66" x 22" CYLINDER
1 MEASURING MACHINE AWC 65", motorized
1 NAPPER 72" SA 12 ROLL, motorized
1 NAPPER 72" SA 14 ROLL, belt driven
1 NAPPER 90" SA 20 ROLL, ballbearing
1 NAPPER 80" DA 24 ROLL, folder & scray
1 NAPPER 90" DA 24 ROLL arranged motor drive
2 NAPPERS 90" DA 36 ROLL arranged motor drive
2 NAPPERS KNIT GOODS 80"—20 ROLL
1 PALMER-TENTER-QUETSCH UNIT 50"
1 PALMER-TENTER-QUETSCH UNIT 60"
6 POLISHING AND THREAD DRESSING UNITS 38" WIDTH ON BRUSHES 2 ROLL AND 5 ROLL MACHINES
1 PRINT MACHINE 2 COLOR 44"
1 PRINT MACHINE 4 COLOR 64"
1 ROTARY STEAM PRESS 66" DOUBLE BED, motorized
1 ROTARY STEAM PRESS 68" DOUBLE BED
1 #3 ENCLOSED REEVES CLASS E
1 SCUTCHER 66" BRASS BEATER AND BRASS SCROLL ROLLS
1 SCOURING RANGE 5 BOWL 48" WITH DRYER
1 SCOURING RANGE 5 BOWL 54" WITH DRYER
3 SKEIN SCOURING BOWLS 30" WIDE
1 SEWING AND ROLLING UNIT, RAILWAY SEWING MACHINE 60" GOODS, BATCHER, UNIT MOTORIZED
5 ROTARY FOOT POWER SEWING MACHINES
5 RAILWAY SEWING MACHINES 40"—50"—52"—56"—60"
1 RAILWAY SEWING MACHINE 50" WIDTH MERROW 60 ABB HEAD MOTORIZED
1 SHEAR 4 BLADE 60", mtrzd.
1 SHEAR SINGLE BLADE 63"
3 SHEARS DOUBLE BLADE 66½" MODEL B, list saving
1 SHEAR DOUBLE BLADE 66½" MODEL A, list saving, mtrzd.
1 SHEARING, STEAMING & BRUSHING MACHINE WITH TWO STEAMERS, TWO DOUBLE BLADE SHEARS AND SINGLE ROLL BRUSH CONNECTED IN TANDEM
1 WORSTED HOT AIR SLASHER, BOX 15' LONG & 8½" WIDE x 8' HIGH WITH DOUBLE SIZE BOX
1 SLASHER 7 can 47" WITH SIZE BOX
1 SLASHER 3 can 7' diameter each, 57" wide, WITH SIZE BOX
2 SQUEEZE SETS 2 roll 50"—60" WITH SIZE PANS
1 SQUEEZE SET HYDRAULIC 2 roll 72" WITH SCUTCHER, mtrzd.
1 SQUEEZE SET 3 rubber covered rolls 116" FACE, SCREW AND LEVER SET
1 TENTER FRAME CLAMP 90' x 52" BRONZE CLIPS, mtrzd.
1 TENTER FRAME CLAMP 40' x 54" SS CLIPS, mtrzd.
1 TENTER FRAME CLAMP 70' x 60" SS CLIPS, mtrzd.
1 TENTER FRAME CLAMP 60' x 72" WITH HOUSING APPROXIMATELY 60', mtrzd. unit
1 TENTER FRAME PIN 60' x 72" SS PINS, mtrzd.
1 TENTER FRAME PIN NEW 30' x 80" SS PINS, mtrzd.
3 WASHERS ROPE WOOD LOG ROLLS 88" x 18", mtrzd.
3 WASHERS 6' REBUILT WOOD BOXES, rolls 66" x 18"
1 WINDING AND MEASURING MACHINE 42", mtrzd.
4 WINDING AND MEASURING MACHINES FOR TUBES 42", 45", 50" & 60"

CARDING AND SPINNING

L30M—AUTOMATIC 8¾" BOBBINS
800 HEAVY CANVASS BOBBIN BAGS
1 NEW PERFECTION 60" CARD CLOTHING TENSION MACHINE
1 IRON 4 cylinder WOOL CARD 48 x 60 TAPE CONDENSER
3 IRON 3 cylinder WOOL CARDS 60 x 60 RING DOFFERS
4 IRON 2 cylinder WORSTED CARDS 60 x 50
2 NOBLE COMBS 65" HACKS
3 TAPE CONDENSERS 48" IRON DOFFERS, COMBS, etc.
1 H&W WOOLEN CONDITIONER TAYLOR CONTROL
2 DOUBLERS 60 spdls. each. SPACE 4 ENDS
1 IRON CONE DUSTER 6½ FOOT
3 PICKER FEEDS 40"—54"—60"
5 CARD FEEDS 48"—60"
1 GARNETT 3 cylinder BB 30 x 60
2 GARNETTS 3 cylinder BB 20 x 60
3 INTERSECTING 2 spdl. GILL BOXES
10 GP MULES 360 spdls. each—2½" gauge 14" bottom
8 GP MULES 320 spdls. each, 3" gauge 14" bottom
1 MULE 360 spdls. 2⅛" gauge, 8¾" bobbin
2 MULES 480 spdls. each 1⅜" gauge 8¾" bobbin
2 WOOL OPENERS double cylinders 48"
1 IRON PICKER CARD 48 x 48 metallic wire
1 MIXING PICKER 6 bar 30"
1 FEARNAUGHT MIXING PICKER 48 x 48
2 RAG PICKERS 20 x 30
6 MODEL E WOOL SPINNING FRAMES 120 spdls. each, 5" ring 1946 model
3 WOOL SPINNING FRAMES 3" ring, 41½" gauge, 192 spdls. each
1 ABBINGTON 1946 model CARD STRIPPING SYSTEM for 10 Wool Cards 60"
3 TWISTERS 60 spdls. each 5" ring, mtrzd.
2 TWISTERS 108 spdls. each 8" ring, belt drive
2 TWISTERS 100 spdls. each 5" ring, mtrzd.
1 FOSTER #30 COMBINATION CONE & TUBE WINDER 100 spdls., mtrzd.
1 FOSTER #101 CONE WINDER 100 spdls., mtrzd.
1 FOSTER #57 DOUBLER 100 spdls., mtrzd.
1 UNIVERSAL #44 ROTOCOMBER 100 spdls., mtrzd.
3 UNIVERSAL #90 BOBBIN WINDERS, mtrzd.
2 ABBOTT model #64 CONE WINDERS 80 spdls.

WEAVING

100 DRAPER E 40" LOOMS, mtrzd.
52 DRAPER E 44" LOOMS, mtrzd.
72 DRAPER K 42" LOOMS, mtrzd.
72 DRAPER K 42" LOOMS, belt driven
28 DRAPER K LOOMS 46" dobbies, mtrzd.
48 DRAPER K LOOMS 60" dobbies, mtrzd.
100 C&K LOOMS S-3—2 x 1—56" dobbies, mtrzd.
35 C&K LOOMS S-3—2 x 1—56" dobbies, mtrzd.
4 C&K LOOMS 4 x 1—47" dobbies, mtrzd.
8 C&K LOOMS 92"—4 x 1—25 har., mtrzd.
14 C&K LOOMS 92"—4 x 4—30 har., mtrzd.

Also parts and supplies such as Blowers, Card Clothing, Doffers, Motors, Expander rolls, etc.

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Tel.: MElrose 5-6741

Eagle Economy

OFFERINGS IN

EXCELLENT MACHINERY AND COMPLETE PLANTS

DYEING, FINISHING AND PRINTING MACHINERY

1—Textile Ager, 18' long, 80" wide, M. D.
1—V.V. Calender, friction, 3 roll, 50", M. D.
1—Perkins Calender, hydraulic, 3 roll, 50" M. D.
1—Butterworth Schreiner Calender, 42" M. D.
SETS of Dry Cans, S.S. & copper, from 44" to 144"
3—P&S Loop Dryers, 20'40' long, M. D.
EXTRACTORS FROM 40" to 72"
1—V.V. Embosser, 60", 2 rolls, M. D. 1-54"
1—Smith Drum 8 ind. package extractor, M. D.
16—Morrison Jiggs, 30" All S.S. tanks, rubber rolls
2—Davis & Furber 80" D.A. 36 roll Nappers
2—V.V. Padder, 2 roll, 60" M. D.
1—V.V. Quetsch, 2 roll, 60" M. D.
1—V.V. Palmer Quetsch, 60"
8—Print Machines, 1-10 colors, 40"-62"
2—C. & M. Singers, 60"
2—1 yd. and 1¼ yd. Flat Folders

SPECIALS

1—V.V. Tenter frame, 50', 1, 60" w; Practically new S.S. clips with spring tops
2—V.V. Jiggs, 60" w. S.S. tensionless type (practically new)
1—Morrison 16 string s.s. dye back, 12' wide
1—V.V. Decating Machine, 72" w, double perforated cylinders, complete with Nash pump and motor (new)
1—Perkins bin piler, automatic, 1947 (unused)
1—National Loop Dryer 30'L Revolving Poles Modern design. (1944)

WEAVING AND SPINNING

33—C&K W-3-72"
100—C&K S-6, 56", (some new)
12—C&K 4x1 92", M.D.
75—S-3, C&K, 56", 2x1
45—S-4, C&K, 54", 4x1
48—C&K; 100 Draper Mod. D., 50"
60—Draper Model E 45"
500—Draper Model E 40"
24—WHITIN Spinning Frames, Long Draft
4—D&F 3 cylinder waste cards, 48x48
36—Saco-Lowell Cards, 40", 12" coilers
40—Whitin, Woonsocket and Platt Cards, 40"
2—BARBER-COLMAN Warp Tying-in Machines, Model J16, size 4J 1-4E and 1-6E
1—Barber-Colman Tying-in Machine, L.S. (1946)
4—WINDERS, Models 101 and 102
1—LOWELL SLASHER, 60" wide, 2 cans 5' and 7', complete with drive.

WORSTED AND WOOLEN EQUIPMENT

2—WHITIN Cards, 60", 3 cylinder, tape condenser
8—D. & F. Worsted Cards, 54" wide, 2 cylinder *All above cards have iron cylinders
8—D. & F. Spinning Frames 120 sp., 6¼" ga. (1946)
4—PRINCE-SMITH Twisters
14—D. & F. Mules large package, 360 sp., 2½" ga. (1947)
1—3 bowl scourer, 30' long, 72" wide, m.d.
1—Rodney Hunt Fulling Mill (New)
3—P&S Garnett Machines, M.D.
12—Gill Boxes
1—Fearnaught Mixing picker

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5,000 to 30,000 spindles: conventional, long draft, combed and carded with and without weaving

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1—V. V. 66" Palmer unit, complete with Quetch and Tenter Frame.
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2—50" Werner Dye Jiggs S. S. lined.
2—54" General enclosed gear S. S. lined Dye Jiggs.
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1—Set of 6 copper cans, vertical, Reeves & motor.
1—Set of 7 copper cans, horizontal, Reeves & motor.
1—Set of 3 copper cans, 36" diameter by 60" face.
1—50" V. V. Button Breaker.
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1—64" Van Vlaanderen motor driven Tuber.
1—36" motor driven self balancing Hercules Extractor.
1—60" V. V. M.D. Horizontal Extractor.
1—60" motor driven Beamers.
2—60" M.D. Tubing & Measuring Machines.
1—60" Measuring, Inspecting & Tubing Machine, tube to tube, new, variable speed, forward, neutral & reverse.
60-80 gallon stainless steel steam jacketed Kettles.
30-60 gallon copper steam jacketed Kettles.
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1—58" Hermas Measuring & Inspecting Machine.
3—No. 50 Universal Coners.
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1—Sterling 7½ H. P. Vari-drive.
1—Reeves 7½ H. P. Vari-drive.
About 5,000 S. S. high speed V. V. Clips.
Agitators of various sizes.
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New & Used Electric Hoists.
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PRINT MACHINES, 6 & 8 color, 60" Waldron.
QUETCHES, 2 & 3 roll.
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1—62" 2 Roll Pad with Foxboro Air Motors—Rubber Rolls
1—63" Perkins Bin Piler arranged for Motor
1—54" P & W Doubler & Roller (Springfield type)
1—60" Portable Electric Rolling Machine
1—62" Coating Head—Rotary Pump
1—90" Butterworth Swing Tenter 60" wide Schwartz Guide—#4 Reeves Drive
1—3 Roll Van Vlanderen Rayon Calender 60"
2—48" Tolhurst Extractor—Motor Driven DC
1—Squeezer 18"x18" Brass to Rubber
2—Squeezer 18"x18" Rubber to Rubber
2—Kier Heaters and Pump
1—Saxmayer Packaging Machine with Motor
2—Model H-I Port. Agit. Explo. Proof Motors
1—Lot of Doctor Blade Holders 56"
2—60" Beamers—Motor Driven
1—Lab. Printing Machine Screw Set.
1—49" P. & W. Semi-Decator
1—Textile Fin. Mach. Co. 3 Roll 50" Heavy Duty Hydraulic Friction Calender
1—Sanforizer 66" Face Entering Rolls 40" Clip Expander & 68" Palmer

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14—Whitin D2 combers, 12" coilers
1—P & S Cone Willow, 7" long w/extractor
30—Whitin Drawing frames, 6 del. each
8—J&B Woolen Spinning frames, 3" ga, 320 spdls. ea.
1—D&F Mixing Fearnaught Picker, 54" wide
1—S-L vertical opener, 24" auto. feeder
6—Woonsocket speeders, 7x3½, 176 sp. ea.
2—Cohoes slashers, 2 cylinder
1—S-L slasher, 5' to 7' cylinders
24—Whitin Model A spinning frames, 2¾" ga. 288 sp.
1—S-L spooler, 6" ga, 86 spdls.
4—S-L twisters, 132 spdls. 2½" ri, motor drive
5—Whitin Twister, 240 spdls, 3" ri.
1—Barber Coleman, 4E Tying Machine

WARPING & WINDING

1—Gocker Warper, high speed, 470 ends, motor
8—Barber Coleman Model HW, 432 ends Warper
1—Foster #102 winder, 100 spindles, 7" traverse
3—Universal #90 winders, 20 spindles
2—Universal #44 Roto Coners, 120 sp. 6" traverse
5—Foster #101, 100 spindles ea., motor
2—Skein winders, 5" ga, 36 spindles

COMPLETE MILLS

Cotton Sheeting Mill, 20,000 sp, 427 looms
Cotton Yarn Mill, 10,000 spindles
Rayon Dyeing & Printing Plant
Rayon Dyeing & Finishing Plant
Cotton Dyeing & Mercerizing Mill
Cotton Sheeting & Print Cloth Mill, 8,000 sp., 210 looms
Worsted Weaving Plant, 24 looms
Woolen Carpet yarn mill
Jacquard Label Weaving Plant
Rayon Throwing Plant
Rayon & Silk Weaving, auto. 95 looms

LOOMS

140—Draper K, 47" r.c., dobby, w/motor
23—C&K W3, 72" w/motor, 1947
200—C&K 55, 56", 2x1 auto.
35—C&K S3 56", 2x1 auto.
21—C&K C4 60" auto. w/motor
150—Draper XD 50", auto. w/motor, 1947
24—C&K 4x4, 92" non-auto.
144—Draper E -45", belt on motor
58—Draper X, 43" r.s. age 1937
72—Model E, 56" looms, Motor drive
42—Modified D's 48", motor drive
12—New W-3 looms, 72" automatic

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1—V.V. Embossing Cal. w/motor
1—V.V. Gas Singer, 4 burners, 60" wi.
1—Copper Mix. Kettle, 200 gallon
1—Philips Mix. Kettle, 100 gallon
140—Copper Print Rollers, 45" & 46" long, 14"-15" circumference
1—W & J Tenter Frame, 40" long, 54" wide, s.s. clips w/motor
1—V.V. Quetsch, 50" wi. 2 rolls, ss pan
1—W&J Tenter Frame, 20' long, 62" wi.
1—P&S loop dryer, 30' long, double run.
1—Embossing Cal. 2 rolls, 50" wide, 1 paper, 1 steel
1—set dry cans, 42 copper drycans, 45" face, five stacks
1—Butt. Cal. 80" face, 6 rolls, lever set
1—C&M Brushing Mch., 68" wide goods adjustable speed, 2 motors
1—V.V. Semi-Decater, 50" wide, complete with blanket
1—P&S skein dryer, 350 lbs. cap., 1936 model
2—Smith Drum, hosiery dyeing, 25 lbs. cap.
1—V.V. Palmer Tenter Unit, 30' long, 55" wide
1—Butterworth Tenter Frame, 80' long, 62" wide, housing, burners, quetsch
1—Butterworth Hydraulic Calender, 7 rolls, 80" face

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1—C. & M. 24" Shoddy Picker
1—Schofield Hard Waste Pickers 18"x30"
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1—Schofield 42" Carding Rag Picker
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1—Clark 48" 6 bar Mixing Picker (New)
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12—C. & K. 82" (4x4 Box) Box Looms
2—L. & G. Chenile Cutters

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1—Hunter No. 10 Fulling Mill
1—Fletcher 60" Mtr. Dr. Extractor
3—Tolhurst Mtr. Dr. Extractors 72"-96"
1—Butterworth Rope Squeezer
1—C. & M. 170" Rolling Teasel Gig
1—P. & W. 66" Double Shear
1—P. & W. 66" Plush Shear
1—Gessner 66" Heavy Duty Press
1—P. & W. 66" 4 cyl. Brush & Sander
1—Yorkshire Crab 72"—3 bowl
1—K. & B. 72" Full Decator
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Also 3 Apperly feeds with feed rollers complete for 60 x 48 card, priced right.

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2 BRUSHER, 68" C&M vert. 4 brushes 2 mtrs.
1 CALENDER, 38" VV Embossing, with mtr.
2 CALENDERS, 42" Farmer Norton Schreiner
1 CALENDER, 50" Hydraulic 25 ton, complete
1 CALENDER, 50" 3 bowl Butterworth chain drv. mtr.
1 CALENDER, 60" Textile 3 roll Friction w. mtr.
1 CALENDER, 70" three roll with mtr. drv.
1 CALENDER, 80" face Butterworth 6 Bowl calender
1 CARD, 60x60 3 cyl. Iron Whitin '26, metallic brst.
1 CARD, Sample 11" wide main cyl. 30", 16" doffer P&S
8 COMBERS, Whitin, with condensers, 12" coilers
1 CONDENSER, P & S type 442
1 CREEL, 8/pp Eastwood, 720 live ends, 3½ lb. cone
1 DECATER, (Semi) P&W for 50" rayon; pump, mtr. blanket
1 DOUBLING, Measuring & Examining machine, 60"
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1 DRYER, 72" wide Sargent raw stock
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2 DYE BECKS 8S 8' mtr drvn. with mtrs.
1 DYE BECK, 8S 8' wide, with motor
1 DYEING, Skein, 28 stick K-W hoist type, mtr.
1 DYEING, 500# CI Franklin Process raw stock
7 DYE BOXES 8S 12'x9' with reels, 1948
1 DYE BOX, 8S lined 23x23x10' long
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4 DYE JIGGS 48" VV wood 8S lined, mtrs. together
1 EXTRACTOR, 20" American, with motor
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1 EXTRACTOR, 60" basket, All SS, with mtr.
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5 FOLDERS, 48" width, C & M
1 FOLDER, C&M Silk Folder, 50" worm drv.
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2 LAPPERS, Whitin Sliver Lap machines, 20 ends up
100 LOOMS, Draper 37" R.S. Duck 2 harness yr. '26
1400 LOOMS, Model E Draper 40", mtr. & Belt drvn.
100 LOOMS, Model K Draper 40" R.S. 20 harn. dobbies, mtr.
58 LOOMS, Draper 43" R.S. with motors
86 LOOMS, Draper 45½" R.S. Hopedale—rayon
28 LOOMS, Draper Model K 46" R.S. Dobby looms, mtr. drv.
120 LOOMS, 52" RS Draper XD Rayon 6 mos. old
250 LOOMS, 57" RS Draper XD 1947 20 harn. dobbies, complete
108 LOOMS, 72" RS XD 3 yrs. old EWSM dble index dobby
16 LOOMS, 76" Mod. D 16 harn Gem head mtrs. EWSM
24 LOOMS, 81" Mod D 2x1 with Gem 20 harn. head mtrs.
24 LOOMS, 90" Draper Auto. 6 cam harness—mtrs.
16 LOOMS, 48" C&K 2x1 12 harn. auto.—mtrs.
24 LOOMS, 48" C&K 4x1 auto. 20 harn. intermed. head
32 LOOMS, 52" C&K 2x1 16 harn Gem Head auto.
16 LOOMS, 52" C&K 2x2 4 bank 1200 hook Jacquards mtrs.
88 LOOMS, 37½" S-3 and S-4 complete for 52" cloth
8 LOOMS, 60" C&K 4x4 1925 complete with mtrs. etc.
21 LOOMS, 60" C-4 auto. 4x1 Jacquards 1 HP mtr.
40 LOOMS, 46" Stafford Shuttle changing auto. 20 harn.
60 LOOMS, 62" Smith Bros. Plush looms C&K 15 harn heads
8 LOOMS, 65" 4x4 20 harn dobbies—Knowles
4 LOOMS, 65" C&K 4x4 rebuilt—1½ HP mtrs.
16 LOOMS, 72" C&K 4x4 20 harn. mtr. with 600 h. Jacquard
29 LOOMS, 72" W-3 4x1 25 harn. auto. let-off, mtrs. '47
12 LOOMS, 72" W-3 New 4x1 25 harness—skidded
14 LOOMS, 76" Terry Towel looms 83" between swords
10 LOOMS, 80" 4x4 C&K 30 harn. Gem. heat mtr. drvn.
20 LOOMS, 82" C&K 4x1 Veribest 25 harness
10 LOOMS, 92" W-3 1937-40 25 harn. mtrs.
40 LOOMS, 92" 4x4 Gem Head C&K 25 harn. with mtrs.
6 LOOMS, 100" C&K 4x1 Box 25 harn. auto. W-3
4 LOOMS, 110" 4x1 Veribest 25 harn. 1932, mtrs.
2 LOOMS, 9' Broadlooms Jacquard 12/4 stat. wires, mtr.
12 LOOMS, 96" C-4 New 1946 8 Harn. Gem Head complete
2 MANGLES, 3 and 5 bowl water mangles 50"
1 MEASURING and Inspecting machine 60"
1 NAPPER, 80" Woonsocket, 24 roll, dble acting, mtr.
1 PADDER, 50" 3 roll Padder, 9" dia. rolls, mtr. drvn.
2 PICKERS, 24" Dodge rag pickers, mtr. ball brg.
1 PRESS, 86" Voelker Dble bed 16" cyl. mtr. drvn.
2 PRINTING machines 2 color 60" with motor
1 PRINTING machine RBE 40" 3 color with drv.
1 QUETSCH, 60" Morrison 2 roll with varispeed mtr.
1 QUETSCH, 50" 3 roll, rubber, screw & lever set
12 ROVING Frames H&B 160 sp. ea. 5½" gge., Casablanca
1 SCOURER 2 bowl P&S for wool skeins with mtr.
1 SCUTCHER, Leyland 50"
5 SHEARS, 45" and 48" Hermas 4 blade elec. seam jumper
1 SHEAR, C&M 4 cyl. shearing machine 66"
1 SINGER 4 burner textile mach. with mtr.
1 SQUEEZE roll set, 8"x72" rubber, frame & pan, 2 roll
30 SPINNING Frames F&J 252 sp. 3¼ gge. 2" ring tape drv.
24 SPINNING Fr. Whitin Mod. A 2¾" gge., 1¾" ring 228 sp. ea.
68 SPINNING Fr. long draft 2½" ring H&B 3" gge.

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175,000—10" Flat Steel Heddles
150,000—14" Heddles. Flat & Wire
3,000—Bell Spinning Caps: 7½" x 2"
10,000—Spindles & Tubes, 20½" x 7 16"
300,000—K. A. Drop Wires (5⅜" x 11/16")
2,000—Fibre Roving Cans, 10" x 36"

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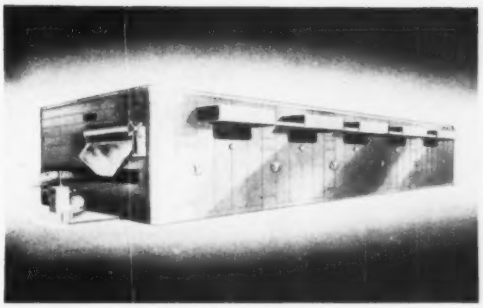

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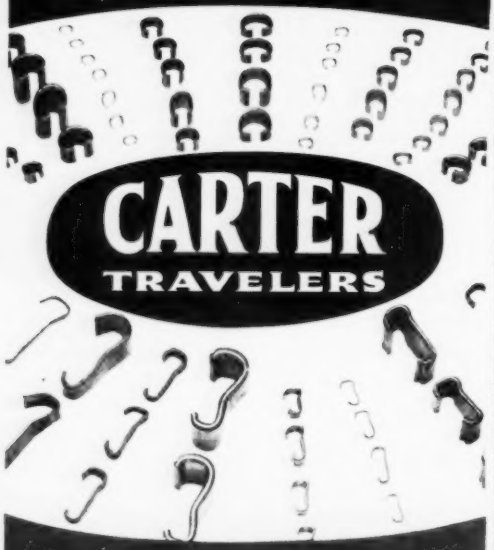

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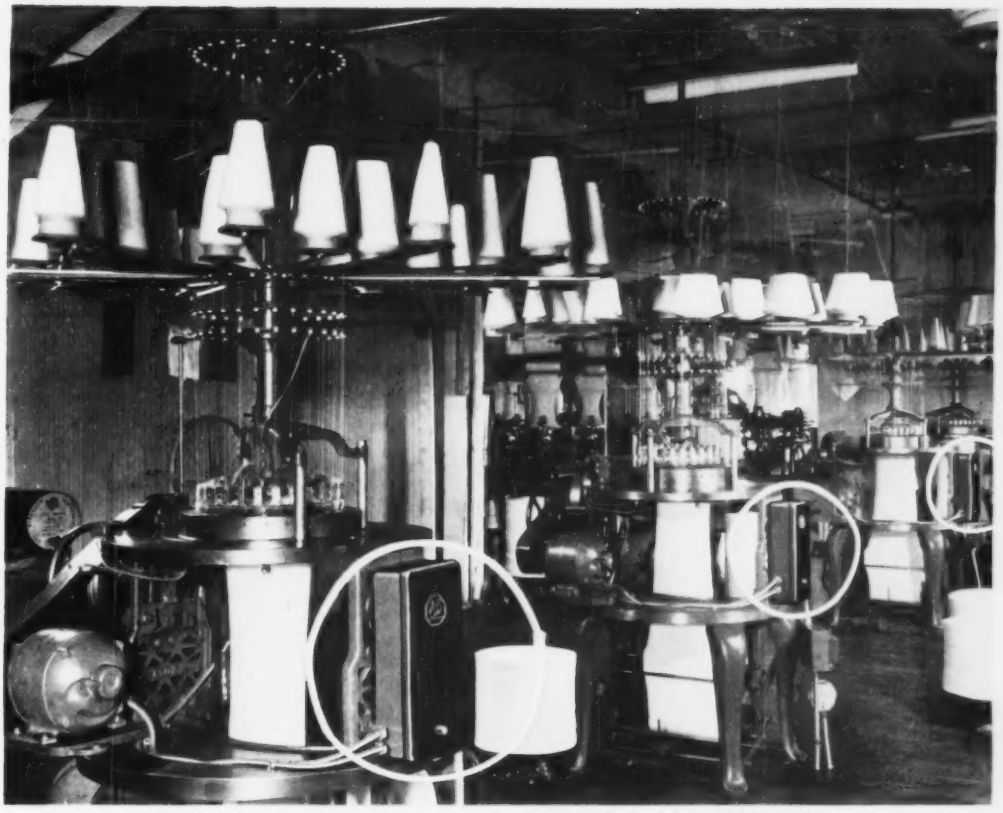

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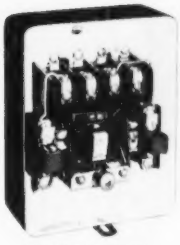
TROUBLE-FREE STARTERS for your Knitting Machines



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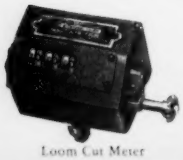
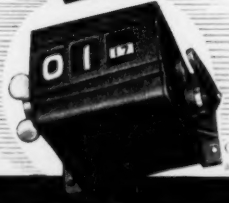


Loom Cut Meter

2–3 Convertible Hank Counter



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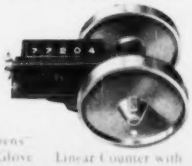

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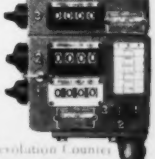

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